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# ACE™ 25
## Computerized Editing System

# Operation

Volume II

Catalog No. 1520498-03
Issued: July 1990

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Catalog No. 1520498-03
Issued: July 1990

# SECTION 6

# A/B ROLL EDITING

## 6-1 INTRODUCTION

The following items are discussed in this section:

- A/B Roll Editing
- Matchframe Edits and Tags
- Dissolves
- Wipes
- Keys
- Switcher Preview
- Switcher Preview "Play"
- Partial Effects
- Sample Edit Session
- GPIs
- Fill Mode

## 6-2 A/B ROLL EDITING

A/B Roll is a term adopted from film editing. In order to dissolve images, a film editor makes up two separate film rolls, an A roll and a B roll, and overlaps them as they go through the optical printer. In this way, images from two sources are mixed.

In video editing, A/B roll editing generally indicates any time when two sources run synchronously in an edit, though it is used most often to refer to special effects such as Dissolves, Wipes, and Keys.

## 6-3 "From" and "To"

The basic structure of any A/B roll edit entails a "From" source (the picture from which you are making the transition) and a "To" source (the picture to which you are making the transition). For each A/B roll edit you will have to select From and To, and assign Entry/Exit points for each. In the ACE 25 ECL each A/B roll edit has at least two lines. The first line is the "From" information, the second line is the "To" information.

In both Dissolves and Wipes, the first line is "From," the second line is "To." With keys, the first line is generally the "From" or "Background" source, the second line is the "To" or "Foreground" key source.

## 6-4 ↑ (Arrow Up), ↓ (Arrow Down)

Once you activate one of the A/B roll effects you will often need to move back and forth between the "From" and "To" sources, to enter numbers, change sources, or trim numbers. There are two easy ways to move between "From" and "To":

- Simply press "From" and "To" source hard keys to automatically mov ECL to that line. If dissolve is from A to B, press A to move ECL to "From" line, press source B to move to "To" line.
- Use ↑ (Arrow Up) to scroll ECL up, or ↓ (Arrow Down) to move ECL down. With splits, dissolves, wipes, keys, and multiple line edits such as sync rolls, this is the easiest method with which to move around th ECL. Remember, line must be "bright" before you can change data.

**Note**

**In version 2.0 software, rotary knob was used to scroll the ECL. In version 3.0 software, rotary knob scrolls the EDL, and the ↑/↓ arrows scroll the ECL.**

## 6-5 MATCHFRAME EDITS

Video editing involves copying material from the source tapes onto the record tape in the order desired. This means that every frame on the record tape has a matching frame on one of the source tapes. This is important to keep in mind when doing A/B roll edits.

Example: You have just recorded a cut from VTR A. As you replay the edit, you decide to do a thirty frame dissolve to the next scene, which is on VTR B. The dissolve to B must start at the exact exit point (out point) on VTR A. To accomplish this dissolve, extend the previous edit by making a "matchframe" cut, that is, cut to the exact frame where you left off in the original scene, so that the transition looks like no edit was made. The extended part of the edit will contain the dissolve.

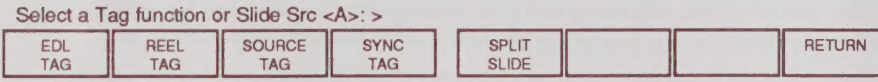
This invisible *matchframe* edit is the basis for all A/B roll editing today. The ACE 25's ability to use timecode and *perfectly* synchronize VTRs makes such technique possible, allowing you to perform matchframe edits from source to source with dissolves, wipes, and keys.

## 6-6 TAGS

At the conclusion of every edit, ACE 25 automatically tags the previous out points for both source and record VTRs, and loads those out points as the new in points for the next edit. This feature makes performing matchframe cuts easy. There is no need to load any new entry points. You simply press PREVIEW or PERFORM edit, and begin recording on the same frame on which you left off.

When setting up an effect, there are times when you want to back up into the previous edit or synchronize with an earlier edit to start a transition. ACE 25 provides several ways to do that and to keep track of your matched frames.

Press HOME, then **TAGS & SLIDES** on Edit Construction Menu 1. The Tag menu appears:




Four types of tags are available. Each is used for a different matchframe situation:

- EDL Tag
- Reel Tag
- Source Tag
- Sync Tag

## 6-7 EDL Tag

**EDL TAG** is used to sync (matchframe) with the out points of an edit already i the Edit Decision List.

Example: If after reviewing your program you decide that edit #53 should be the end of Act 1 and end in a fade to black, proceed as follows:

1. Press EDL, and scroll back to Edit #53.

2. Press HOME, **EDL TAG**. The exit points of edit #53 automatically load into the ECL as the entry points of a new edit.

3. Press DISS, then BLACK to set up the new transition, in this case, then preview or record the edit.

In this manner, using **EDL TAG**, you can sync up with the exit points of any edit in the EDL.

## 6-8 Reel Tag

**REEL TAG** is used to bring the last use of a reel back into sync, based on the current record entry point. **REEL TAG** performs calculations on the "To" VTR in a "From/To" transition.

Example: You are working with two source reels with footage of a band. On VTR B is a close up of the lead singer, and a wide shot of the entire band is on VTR A. You just cut to the band, and now want to insert a "video only" close up of the singer *in sync*, picking up from the last shot used on this reel, *as if the reel had been continuously rolling*. Because you are dealing with audio, the soundtrack and the visuals must be in sync—otherwise the singer's lips will not match the track. **REEL TAG** makes this frequently used transition possible.

1. Mark an entry point on the Record VTR where the insert takes place.

2. Press CUT, B to set up the edit.

3. Press **REEL TAG**. ACE 25 reviews the EDL, finds the last shot used from this reel, and loads a new entry point based on the current record VTR's entry point. You are in sync.

In a "From/To" transition such as a Dissolve, or simply in a "To" transition such as a Cut, **REEL TAG** pulls up the "To" VTR into sync with the current record entry time. "Reel Tag" looks up previous uses of that reel in the EDL.

Example: if your EDL looks like this ...

| | Simplified EDL |
|---|---|
| Event # 1 | CUT A |
| 2 | CUT B |
| 3 | CUT A |
| 4 | CUT B |
| 5 | CUT A |
| 6 | CUT A |
| 7 | CUT A |
| 8 | CUT A |

... and you just cut to A on edit 8, and now want to reel tag to B, press **REEL TAG**. When the soft key is pressed, ACE 25

- first looks back up in EDL for last use of reel;
- then, when last use of reel is located, system
  - takes source out point from edit 4,
  - adds edit durations of all edits in between 5 and 8,
  - adds that total duration to edit 4's source out-time, and
  - calculates VTR B's new in-time in sync for edit 9.

If, as a second example, you really wanted to pull up in sync the source reel used in edit 2 with a reel tag, ACE 25 will give you the numbers from edit 4 unless you *scroll the EDL* to the exact edit to which you want to reel tag and press **REEL TAG**. In this case, ACE 25 sees the edit on its active line and does not need to search up the EDL.

The **REEL TAG** mode is extremely valuable in all A/B situations (and even in Cut situations) for pulling up scenes into sync with one simple keystroke.

## 6-9 Source Tag

**SOURCE TAG** is used when you back up an entry point on the record machine and want ACE 25 to calculate the amount that the source VTR should be backed to stay in sync. This mode is generally used when you perform an open-ended edit, let the recording go "long," then trim back for the next entry point and transition.

**SOURCE TAG** performs calculations on the "From" VTR in a "From/To" transition as follows:

1. Mark, set, or trim the new record time.

2. Press **SOURCE TAG**. ACE 25 looks at the last record out point in the EDL, compares it with the new record time, calculates the difference, and subtracts the difference to calculate the new source entry.

You can now trim the record VTR *forwards or backwards*, and source tag again as many times as required. **SOURCE TAG** will keep you in sync.

There are three special cases with **SOURCE TAG**:

- If you trim record VTR forwards beyond last recorded out point in EDL, and press **SOURCE TAG**, the message

  **Fill required to transition smoothly**

  is displayed. In this case, press HOME, **MORE**, **FILL**, and ACE 25 will fill the unrecorded gap.

- If you trim record VTR backwards into transition interval (actual time when machines are dissolving or wiping from one source to another) and press **SOURCE TAG**, the message

  **Effect being cut off**

  is displayed. This is only cautionary, and you can proceed with the new edit.

- If you trim record VTR *backwards* into a previous edit and press **SOURCE TAG**, ACE 25 will change the reel number of the source required to keep you in sync.

## 6-10 Sync Tag

**SYNC TAG** allows you to match action from one source with sound from another source at a point *within* an edit. This is commonly done using an audio only or video only edit. While the previous TAG modes used marked timecodes on which to base calculations, **SYNC TAG** uses the *position* of the record and source VTRs in order to calculate the required source entry.

Example: You have recorded a video edit of a clown being shot out of a cannon. You have a piece of music track with a bass drum sound that you want to have occur exactly as the cannon fires. Calculate the source VTR's entry point to sync the sound with the shot as follows:

1. Mark a record entry point for the audio only edit, and set up an audio only edit.

2. Visually *position* the record VTR on the frame where the cannon fires. Leave the record VTR parked at this point. Do not mark in.

3. *Position* the source VTR (with the music track) on the frame where the drum sound starts. Do not mark in.

4. Press **SYNC TAG**. ACE 25 calculates the difference between the position of the record VTR and the marked record entry point, subtracts that time from the position of the source VTR, and calculates the necessary source entry point.

## 6-11 DISSOLVE TRANSITIONS

Dissolve (also known as lap dissolve) edits are gradual transitions from one scene to another in which the scenes overlap for a time. With the ACE 25 the duration of the dissolve can be as short as one frame or as long as 999 frames.

Two types of dissolves can be performed on the ACE 25:

- A *dissolve* edit is where crossfade starts right away, i.e., at edit point.
- A *delayed dissolve* edit is where the "From" source continues for a while before start of dissolve.

With dissolves, the "From" VTR will continue to roll throughout the edit.

## 6-12 Dissolve

To perform a dissolve (at the edit point):

1. Set up and record a cut to VTR A, 5 seconds in duration. This gives you tag points.

2. Press DISS. The message

   **Select Source**

   appears on the top line of the CRT, and the following soft key menu is displayed:

   The active edit in the ECL splits into two lines: The top line will be labeled "Cut" and shows the "From" source. The bottom line is labeled "Diss" and shows the dissolve duration and the "To" source.

3. Select a source VTR. Press B. Mark or set in only entry points if the dissolve is to be open-ended. Mark or set both entry and exit points if the dissolved is to be closed.

4. Select duration for the dissolve, i.e., rate at which you want dissolve to occur. A 30 frame dissolve is most common, a 6 or 10 frame dissolve is fast, a 60 or 90 frame dissolve is slow. Enter number on the keypad and press **EFFECT DURATION**. You can enter and change durations as required. At this point, your sample ECL may look like Figure 6-1.

| Edt | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 100 | 10 | V12 | Cut | | | 1:00:00 | 1-00-00 | 2:00:10:00 | 2-00-10-00 |
| 100 | 20 | V12 | Dis | | 30 | 3:20:00 | 3:25:00 | 2-00-10-00 | 2-00-15-00 |

**Figure 6-1. Sample Dissolve ECL**

In Figure 6-1, line 1 of the dissolve is the Cut line, or "From" line. All A/B transitions start with a matchframe cut. The record and source entry points are the same because ACE 25 cuts to source 10 and instantly begins the transition to source 20. Line 2 is the dissolve, or "To" line, with the source entry and exit points marked. The duration of the dissolve is displayed in the Dur column.

5. Press PREVIEW or PERFORM (PREVIEW + EDIT) to preview or perform the dissolve.

You can also preview just the effect by pressing **SWITCHER PREVIEW**. This enables you to view the dissolve transition manually using the rotary knob, or automatically by pressing PLAY. See paragraph 6-28 for details on **SWITCHER PREVIEW** mode.

You can also adjust the **FADER START** position and **FADER END** position in order to accomplish a dissolve to a superimposition. See paragraph 6-30 for details on Partial Effects.

## 6-13 Delayed Dissolve

A delayed dissolve is one which holds on the "From" source for a time before beginning. To perform a delayed dissolve:

1. Follow steps 1 through 4 for a dissolve as outlined in paragraph 6-12.

2. To delay the dissolve, give either the source or record VTR on "From" (Cut) line a duration. Press ↑ (Arrow Up) to move to the "From" line, select source or record, then trim, set, or mark a duration. The dissolve will be delayed by the duration of the cut line. The shot will continue for the marked duration, before the dissolve begins. In Figure 6-2, line 1, the Cut line, shows the 1 second delay.

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 101 | 20 | V12 | Cut | | | 3:25:00 | 3:26:00 | 2:00 15 00 | 2:00-16-00 |
| 101 | 10 | V12 | Dis | | 30 | 1:20:00 | 1-24-00 | 2-00-16-00 | 2-00-20-00 |

**Figure 6-2. Sample Delayed Dissolve ECL**

3. Press PREVIEW or PERFORM (PREVIEW + EDIT) to preview or perform the delayed dissolve.

You can preview just the effect by pressing **SWITCHER PREVIEW**. See paragraph 6-28 for details on **SWITCHER PREVIEW**. You can adjust **FADER START** and **FADER END** positions. See paragraph 6-30 for details on Partial Effects.

## 6-14 DELETE LINE

In an A/B transition, a split edit, a sync roll situation, or an edit with a comment, an ECL line can be deleted in order to change the effect back to a cut, or simply to remove a line.

1. Highlight the line in the ECL that is to be deleted.

2. Press HOME, **MORE**, **DELETE LINE**.

**Note**

**Top line of ECL cannot be deleted. If you attempt this you will get an error message.**

## 6-15 WIPE TRANSITIONS

A wipe edit is an A/B transition in which a new scene displaces the old by entering screen as a pattern that increases or decreases in size until it fills the entire screen. Depending on switcher, wipe duration, pattern, and parameters of wipe pattern border can be selected directly from the editing keyboard.

Similar to dissolve, a wipe can start right away, i.e., at the edit point, or can be delayed. A delayed wipe is one in which the "From" source continues for a while before the start of the wipe. With wipes, the "From" VTR will continue to roll throughout the edit.

**Note**

**ACE 25 (optional) internal composite and component video switchers do not provide wipe patterns.**

## 6-16 Wipe

To perform a wipe (at the edit point):

1. Record a cut to a source VTR, 5 seconds in duration. This gives you tags.

2. Press WIPE. The message

   **Select Source**

   appears on the top line of the CRT. The following menu is displayed:

   The ECL splits into two lines: The top line is labeled "Cut" and shows the "From" source. The bottom line is labeled "Wipe" and shows the duration, pattern, edge type, direction, and the "To" source.

3. Select a "To" source. Mark or set in just entry points if the wipe is to be open-ended. Mark or set entry *and* exit points if the wipe is closed.

4. Select a duration for the wipe, and press **EFFECT DURATION**. You can enter and change durations as required.

5. Select other wipe parameters from the Wipe Choice menu as appropriate for the transition:

   - **H/S/O/o** is a four way toggle key defining edge of wipe. Select H (hard), S (soft), O (full halo), or o (half halo).
   - **NORMAL/REVERSE** toggles between normal and reverse wipe direction.
   - **WIPE PATTERN** code numbers are determined by switcher used. Use keypad to enter wipe code then press **WIPE PATTERN.**
   - Pressing **BORDER WIDTH** lets you use rotary knob on ACE 25 to adjust pattern border width. Pressing any other key confirms your selection.

At this point, your sample ECL may look like Figure 6-3.

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 102 | 10 | V12 | Cut | | | 1:24:00 | 1-24-00 | 2:00:20:00 | 2-00-20-00 |
| 102 | 20 | V12 | Wipe | 4HN | 30 | 3:30:00 | 3-35-00 | 2-00-20-00 | 2-00-25-00 |

**Figure 6-3. Sample Wipe ECL**

In Figure 6-3, line 1 is the Cut line, or "From" line. Line 2 is the wipe, or "To" line, with the source entry and exit points marked. The duration of the wipe is displayed in the Dur column. Pattern number, border type, and wipe direction are displayed in the Pat column.

6. Press PREVIEW or PERFORM (PREVIEW + EDIT) to preview or perform the wipe.

You can also preview just the effect by pressing **SWITCHER PREVIEW**. See paragraph 6-28 for details on **SWITCHER PREVIEW** mode. You can adjust **FADER START** and **FADER END** positions. See paragraph 6-30 for details on Partial Effects.

## 6-17 Delayed Wipe

A delayed wipe is one which holds on to the "From" source for a time before beginning. To perform a delayed wipe:

1. Follow steps 1 through 5 for a wipe as outlined in paragraph 6-16.

2. To delay the wipe, give either the source or record VTR on the "From" (Cut) line a duration. Press ↑ (Arrow Up) to move to the "From" line, select source or record, then trim, set, or mark a duration. The wipe will be delayed by the duration of the cut line. The shot will continue for the marked duration, before the wipe begins. In Figure 6-4, line 1, the Cut line, shows the 2 second delay.

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 103 | 20 | V12 | Cut | | | 3:35:00 | 3:37:00 | 2:00:25:00 | 2-00-27-00 |
| 103 | 10 | V12 | Wipe | 8SR | 30 | 1:30:00 | 1:33:00 | 2-00-27-00 | 2-00-30-00 |

**Figure 6-4. Sample Delayed Wipe ECL**

3. Press PREVIEW or PERFORM (PREVIEW + EDIT ) to preview or perform the delayed wipe.

You can also preview just the effect by pressing **SWITCHER PREVIEW**. See paragraph 6-28 for details on **SWITCHER PREVIEW**. You can adjust the **FADER START** and **FADER END** positions. See paragraph 6-30 for details on Partial Effects.

## 6-18 KEY TRANSITIONS

Keys are most often used for inserting titles and digital effects such as ADO. A key electronically "cuts a hole" in the background video and inserts a foreground image. The "key hole" or pattern can be established in any size or shape by monochrome key signals from a camera, a character generator, or an ADO. The result is similar to a superimposition, but cleaner and brighter.

The ACE 25 can perform the following types of keys, depending on the individual switcher's capability:

- **Cut Key**: Key cuts into background.
- **Dissolve Key Up**: Key fades up over background.
- **Dissolve Key Down**: Key fades down into background.
- **Dissolve Key Up and Down**: Key fades up then fades down.
- **Downstream Keys**: Downstream (DS) versions of all above can be accomplished when switcher with DS key capability is used. DS key takes place further down the signal path than a normal mix/effects (M/E) key. With DS keys, you can key over a dissolve or wipe, and, with some switchers, have two keys on line simultaneously.

Depending on switcher used, above keys can be performed in the following modes:

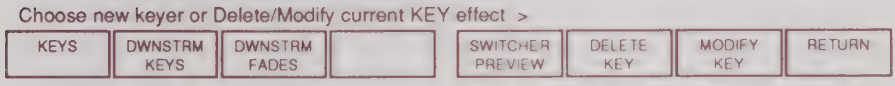
- **Internal key**: Cut and fill information come from same source.
- **External key**: Cut information comes from one source (e.g., AUX) and fill information comes from another (e.g., TAPE).
- **Normal**: Keying source is white on black.
- **Invert**: Keying source is black on white.
- **Luma**: Luminance key keys off brightness.
- **Chroma**: Chrominance or Chroma key keys off of a color.

## 6-19 Cut Key

To perform a Cut Key:

1. Select background source VTR and enter edit points as if for a Cut.

2. Press KEY to call up the Key Type Selection menu.




3. Press **KEYS** to select normal M/E keys. This brings up the Select Effects Keyer Type menu:

4. Press **CUT KEY**. The message

**Select Source**

appears on the top line of the CRT, and CutKy appears in the Effect column of the ECL. The top line is the background source. The second line is the foreground (key) source. The Key Parameters menu appears:

5. Select a foreground key source. Press A, B, C, AUX 1, AUX 2, or AUX 3 to select the key video for the foreground source line.

6. Press R and enter timecodes for the key foreground. On the foreground line, you are marking entry and exit points for the key along the record VTR's time line. Think of the key foreground line as its own time line. The following are three simple rules for the key timing:

- If key foreground record exit is undefined (open-ended), key cuts out when record VTR exits.
- If key foreground record entry time occurs "later" than background record entry, key is delayed.
- If foreground record exit time occurs earlier than background line's record exit, key cuts out early.

7. Select key parameters as required (**NORMAL** or **INVERT**, **LUMA** or **CHROMA**, **INTERNAL** or **EXTERNAL**). Note that these choices are switcher dependent.

8. Adjust key parameters as required, noting that these choices are switcher dependent:
   - Press **KEY CLIP LEVEL** and use rotary knob to clip key.
   - Press **KEY GAIN** and use rotary knob to adjust gain of key.
   - Press **CHROMA KEY HUE** and use rotary knob to adjust hue of chroma key.

9. With Cut Key, effect duration is 0. Press PREVIEW or PERFORM (PREVIEW + EDIT) to preview or perform the cut key.

10. To change key source, simply press KEY, followed by the source.

See paragraph 6-31, "Sample Edits," for more examples of keys with the accompanying screen and ECL displays.

## 6-20 Key Up

To perform a Key Up:

1. Select background source VTR and enter edit points as if for a Cut.

2. Press KEY to call up the Key Type Selection menu. Press **KEYS** to select normal M/E keys. This brings up the Select Effects Keyer Type menu:

Select key type on Effects Keyer: >

| CUT KEY | DISS KEY UP | DISS KEY DOWN | DISS KEY UP&DOWN | WIPE KEY | | KEY PARAMS | RETURN |
|---|---|---|---|---|---|---|---|

3. Press **DISS KEY UP**. The message

   **Select Source**

   appears on the top line of the CRT, and KyUp appears in the Effect column of the ECL. The top line is the background, the second line is the foreground. The record entry on the second line shows when the key up transition occurs. The Key Parameters menu appears.

4. Select a foreground key source. Press A, B, C, AUX 1, AUX 2, or AUX 3.

5. Press R and enter timecodes for the foreground. On the foreground line, you are marking entry and exit points for the key along the record VTR's time line. The same three timing rules apply for Key Up as they did for Cut Key:

   - If key foreground record exit is undefined (open-ended), key cuts out when record VTR exits.
   - If key foreground record entry time occurs "later" than background record entry, Key Up is delayed.
   - If foreground record exit time occurs earlier than background line's record exit, Key Up cuts out early.

6. Select key parameters (**NORMAL** or **INVERT**, **LUMA** or **CHROMA**, **INTERNAL** or **EXTERNAL**). These choices are switcher dependent.

7. Adjust key parameters as required, noting that these choices are switcher dependent:

   - Press **KEY CLIP LEVEL** and use rotary knob to clip key.
   - Press **KEY GAIN** and use rotary knob to adjust gain of key.
   - Press **CHROMA KEY HUE** and use rotary knob to adjust hue of chroma key.

8. Enter on the keypad the number of frames (duration) for the Key Up transition, and press **EFFECT DURATION**.

9. Press PREVIEW or PERFORM to preview or perform the Key Up. The keyed video enters at the point specified by the record entry point on

the KyUp line, dissolves up at the rate specified, then cuts out at the specified exit or at the end of the edit if no exit is specified. Frequently a key up is followed by a matched Cut key, or a Key down on the next edit.

10. To change the key source, press KEY, followed by the source.

You can also preview just the effect by pressing **SWITCHER PREVIEW**. See paragraph 6-28 for details on **SWITCHER PREVIEW**. You can adjust the **FADER START** and **FADER END** positions. See paragraph 6-30 for details on Partial Effects.

See paragraph 6-31, "Sample Edits," for more examples of keys, with the accompanying screen and ECL displays.

## 6-21 Key Down

To perform a Key Down:

1. Select background source VTR and enter edit points as if for a Cut.

2. Press KEY to call up the Key Type Selection menu. Press **KEYS** to select normal M/E keys. This brings up the Select Effects Keyer Type menu:

3. Press **DISS KEY DOWN**. The message

**Select Source**

appears on the top line of the CRT, and "KyDn" appears in the Effect column of the ECL. The top line is the background, the second line is the foreground. The record entry on the second line shows when the key down transition occurs. The Key Parameters menu appears.

4. Select a foreground key source. Press A, B, C, AUX 1, AUX 2, or AUX 3.

5. Press R and enter timecodes for the foreground. On the foreground line, you are marking edit points for the key along the record VTR's time line. Slightly different timing rules apply for Key Down:

- Key foreground record exit must be defined, by amount equal to or greater than effect duration. This is where Key Down is completely out.
- If key foreground record entry time occurs "later" than background record entry, Key Down cuts in after background cut, then fades down as programmed.
- If foreground record exit time occurs earlier than background line's record exit, key fades down to that specified point.

6. Select key parameters (**NORMAL** or **INVERT**, **LUMA** or **CHROMA**, **INTERNAL** or **EXTERNAL**). These choices are switcher dependent.

7. Adjust key parameters as required, noting that these choices are switcher dependent:
   - Press **KEY CLIP LEVEL** and use rotary knob to clip key.
   - Press **KEY GAIN** and use rotary knob to adjust gain of key.
   - Press **CHROMA KEY HUE** and use rotary knob to adjust hue of chroma key.

8. Enter on the keypad the number of frames (duration) for the Key Down transition, and press **EFFECT DURATION**.

9. Press PREVIEW or PERFORM to preview or perform the Key Down. The keyed video cuts in at the point specified by the record entry point on the KyDn line, then fades out at the specified exit.

10. To change the key source, press KEY, followed by the source.

You can also preview just the effect by pressing **SWITCHER PREVIEW**. See paragraph 6-28 for details on **SWITCHER PREVIEW**. You can adjust the **FADER START** and **FADER END** positions. See paragraph 6-30 for details on Partial Effects.

See paragraph 6-31, "Sample Edits," for more examples of keys, with the accompanying screen and ECL displays.

## 6-22 Key Up/Down

To perform a Key Up/Down:

1. Select background source VTR and enter edit points as if for a Cut.

2. Press KEY to call up the Key Type Selection menu. Press **KEYS** to select normal M/E keys. This brings up the Select Effects Keyer Type menu:

3. Press **DISS KEY UP&DOWN**. The message

**Select Source**

appears on the top line of the CRT, and KyUpDn appears in the Effect column of the ECL. The top line is the background, the second line is the foreground. The Key Parameters menu appears.

4. Select a foreground key source. Press A, B, C, AUX 1, AUX 2, or AUX 3.

5. Press R and enter timecodes for the foreground. On the foreground line, you are marking edit points for the key along the record VTR's time line. The following three timing rules apply for Key Up/Down:

   - Key foreground record exit must be defined, by amount equal to or greater than two times the effect duration. This is where the Key Up/Down is completely out.
   - If foreground record entry time occurs "later" than background record entry, Key Up/Down is delayed.
   - If foreground record exit time occurs earlier than background's exit, Key Up/Down fades out early.

6. Select key parameters (**NORMAL** or **INVERT**, **LUMA** or **CHROMA**, **INTERNAL** or **EXTERNAL**). These choices are switcher dependent.

7. Adjust key parameters as required, noting that these choices are switcher dependent:
   - Press **KEY CLIP LEVEL** and use rotary knob to clip key.
   - Press **KEY GAIN** and use rotary knob to adjust gain of key.
   - Press **CHROMA KEY HUE** and use knob to adjust hue.

8. Enter on the keypad the number of frames (duration) for the Key Up/Down transition, and press **EFFECT DURATION**. With Key Up/Down, Key Up effect duration matches Key Down effect duration.

9. Press PREVIEW or PERFORM to preview or perform the Key Up/Down. The keyed video fades in at the point specified by the record entry point, then fades down at the specified exit.

   Example:
   - If duration of key is 90 frames and duration of fade is 30 frames, key fades in for 30 frames, stays full for 30 frames, fades down for 30 frames.
   - If duration of key is 100 frames and duration of fade is 30 frames, key fades in for 30 frames, stays full for 40 frames, fades down for 30 frames.

10. To change the key source, press KEY, followed by the source.

You can preview the effect by pressing **SWITCHER PREVIEW**. See paragraph 6-28 for details. You can adjust **FADER START** and **FADER END** positions. See paragraph 6-30 for details on Partial Effects.

See paragraph 6-31, "Sample Edits," for more examples of keys, with the accompanying screen and ECL displays.

## 6-23 DOWNSTREAM KEY TRANSITIONS

Downstream (DS) keys can be combined with upstream effects such as keys, wipes, and dissolves. You can perform DS Keys over an effect, and, depending on the switcher, have two keys present in the same event. The following downstream keys are available:

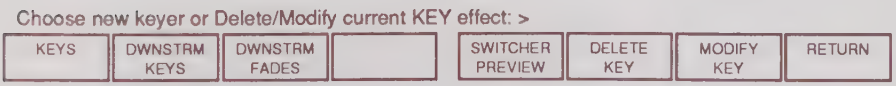
- Downstream cut key
- Downstream key up
- Downstream key down
- Downstream key up/down

## 6-24 Downstream Cut Key

To perform a Downstream Cut Key:

1. Select "From" and "To" background sources, and program edit points for a Dissolve, a Wipe, or a Normal (Upstream) Key.

2. Press KEY to call up the Key Type Selection menu:




3. Press **DOWNSTRM KEYS** to bring up the Select Downstream Keyer Type menu:

4. Press **DSK CUT KEY**. The message

Select Source

appears on top line of the CRT, and "DskCt" appears in Effect column of ECL. The top two lines are the upstream effect. The third line is foreground (key) source for DS key. The Key Parameters menu appears:

Choose KEY parameters: >

| KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN |
|---|---|---|---|---|---|---|---|

5. Select a foreground downstream key source. Press A, B, C, AUX 1, AUX 2, or AUX 3 to select the key video for the foreground source line.

6. Press R and enter timecodes for the downstream key foreground. On the foreground line, you are marking edit points for the key along the record VTR's time line. Think of the key foreground line as it's own time line. Following are three rules for downstream cut key timing:
   - If DS key foreground record exit is undefined (open-ended), key cuts out when record VTR exits.
   - If DS key foreground record entry time occurs "later" than upstream effect's entry, DS key is delayed.
   - If DS key foreground record exit time occurs earlier than upstream effect's exit, DS key cuts out early.

7. Select key parameters. (**NORMAL** or **INVERT**, **LUMA** or **CHROMA**, **INTERNAL** or **EXTERNAL**). These choices are switcher dependent.

8. Adjust key parameters as required, noting that these choices are switcher dependent:
   - Press **KEY CLIP LEVEL** and use rotary knob to clip key.
   - Press **KEY GAIN** and use rotary knob to adjust gain of key.
   - Press **CHROMA KEY HUE** and use knob to adjust chroma key hue.

9. With a DS Cut Key, effect duration is 0. Press PREVIEW or PERFORM to preview or record the DS cut key.

10. To change key source, press KEY, followed by the source.

See paragraph 6-31, "Sample Edits," for more examples of keys, with the accompanying screen and ECL displays.

## 6-25 Downstream Key Up

To perform a Downstream Key Up:

1. Select "From" and "To" background sources, and program edit points for a Dissolve, a Wipe, or a Normal (Upstream) Key.

2. Press KEY to call up the Key Type Selection menu. Press **DOWNSTRM KEYS** to bring up the Select Downstream Keyer Type menu:

3. Press **DISS DSK UP**. The message

**Select Source**

appears on top line of CRT, and DskUp appears in Effect column of ECL. The top two lines are the upstream effect. The third line is the foreground (key) source for DS key. The Key Parameters menu appears.

4. Select a foreground key source. Press A, B, C, AUX 1, AUX 2, or AUX 3.

5. Press R and enter timecodes for the foreground. On the foreground line, you are marking entry and exit points for the DS key along the record VTR's time line. The following four rules apply for DS Key Up:
   - If DS key foreground record exit is undefined (open-ended), DS key cuts out when record VTR exits.
   - If DS key foreground record entry time occurs "later" than upstream effect's entry, DS Key Up is delayed.

- If DS key foreground record exit time occurs earlier than upstream effect's record exit, DS Key Up cuts out early.
- Upstream effect duration can be different from DskUp duration; both durations can even overlap.

6. Select DS key parameters (**NORMAL** or **INVERT**, **LUMA** or **CHROMA**, **INTERNAL** or **EXTERNAL**). These choices are switcher dependent.

7. Adjust key parameters as required, noting that these choices are switcher dependent:
   - Press **KEY CLIP LEVEL** and use rotary knob to clip key.
   - Press **KEY GAIN** and use rotary knob to adjust gain of key.
   - Press **CHROMA KEY HUE** and use knob to adjust hue.

8. Enter on the keypad the number of frames (duration) for the DS Key transition, and press **EFFECT DURATION**.

9. Press PREVIEW or PERFORM to preview or perform the DS Key Up. The keyed video enters at the point specified by the record entry time on DskUp line, dissolves up at rate specified, then cuts out at the specified exit or at the end of the edit if no exit is specified.

10. To change DS key source, press KEY, followed by the source.

You can also preview just the effect by pressing **SWITCHER PREVIEW**. See paragraph 6-28 for details on **SWITCHER PREVIEW** mode. You can adjust the **FADER START** and **FADER END** positions. See paragraph 6-30 for details on Partial Effects.

See paragraph 6-31, "Sample Edits," for more examples of keys, with the accompanying screen and ECL displays.

## 6-26 Downstream Key Down

To perform a Downstream Key Down:

1. Select "From" and "To" background sources, and program edit points for a Dissolve, a Wipe, or a Normal (Upstream) Key.

2. Press KEY to call up the Key Type Selection menu. Press **DOWNSTRM KEYS** to bring up the Select Downstream Keyer Type menu:

3. Press **DISS DSK DOWN**. The message

**Select Source**

appears on top line of CRT, and DskDn appears in Effect column. The top two lines are the upstream effect. The third line is foreground (key) source for the DS Key Down. The Key Parameters menu appears.

4. Select a foreground key source. Press A, B, C, AUX 1, AUX 2, or AUX 3.

5. Press R and enter timecodes for the foreground. On the foreground line, you are marking edit points for the DS key along the record VTR's time line. Different timing rules apply for DS Key Down:

   - DS key foreground record exit must be defined, by amount equal to or greater than effect duration. This is where DS Key Down is completely out.
   - If DS key foreground entry point occurs "later" than upstream effect's entry, DS Key Down cuts in after upstream effect, then fades down as programmed.
   - If foreground record exit time occurs earlier than upstream effect's record exit, DS Key Down fades down to that point.
   - Upstream effect duration can be different from Dsk Down duration; both durations can even overlap.

6. Select key parameters (**NORMAL** or **INVERT**, **LUMA** or **CHROMA**, **INTERNAL** or **EXTERNAL**). These choices are switcher dependent.

7. Adjust key parameters as required, noting that these choices are switcher dependent:
   - Press **KEY CLIP LEVEL** and use rotary knob to clip key.
   - Press **KEY GAIN** and use rotary knob to adjust gain of key.
   - Press **CHROMA KEY HUE** and use knob to adjust hue.

8. Enter on the keypad the number of frames (duration) for the DS Key Down transition, and press **EFFECT DURATION**.

9. Press PREVIEW or PERFORM to preview or perform the DS Key Down. The keyed video cuts in at the point specified by the record entry point on the DskDn line, then fades out at the exit.

10. To change the key source, press KEY, followed by the source.

You can preview just the effect by pressing **SWITCHER PREVIEW**. See paragraph 6-28 for details on **SWITCHER PREVIEW**. You can adjust the **FADER START** and **FADER END** positions. See paragraph 6-30 for details on Partial Effects.

See paragraph 6-31, "Sample Edits," for more examples of keys, with the accompanying screen and ECL displays.

## 6-27 Downstream Key Up/Down

To perform a Downstream Key Up/Down:

1. Select "From" and "To" background sources, and program edit points for a Dissolve, a Wipe, or a Normal (Upstream) Key.

2. Press KEY to call up the Key Type Selection menu. Press **DOWNSTRM KEYS** to bring up the Select Downstream Keyer Type menu:

Select key type on Downstream Keyer: >

| DSK CUT KEY | DISS DSK UP | DISS DSK DOWN | DISS DSK UP&DOWN | | | KEY PARAMS | RETURN |
|---|---|---|---|---|---|---|---|

3. Press **DISS DSK UP&DOWN**. The message

**Select Source**

appears on CRT's top line, and "DskUpD" appears in Effect column. The top two lines are the upstream effect. The third line is foreground for DS key down. The Key Parameters menu appears.

4. Select a foreground key source. Press A, B, C, AUX 1, AUX 2, or AUX 3.

5. Press R and enter timecodes for the foreground. On the foreground line, you are marking edit points for DS key along the record VTR's time line. The following four rules apply for DS Key Up/Down:

- DS key foreground record exit must be defined, by amount equal to or greater than two times effect duration. This is where DS Key Up/Down completes its fade.
- If DS key foreground record entry time occurs "later" than upstream effect's entry, DS Key Up/Down is delayed.
- If DS key foreground record exit time occurs earlier than upstream effect's exit, DS Key Up/Down fades out early.
- Upstream effect duration can be different from Dsk Up/Down duration; both durations can even overlap.

6. Select key parameters (**NORMAL** or **INVERT**, **LUMA** or **CHROMA**, **INTERNAL** or **EXTERNAL**). These choices are switcher dependent.

7. Adjust key parameters as required, noting that these choices are switcher dependent:

- Press **KEY CLIP LEVEL** and use rotary knob to clip key.
- Press **KEY GAIN** and use rotary knob to adjust gain of key.
- Press **CHROMA KEY HUE** and use knob to adjust hue.

8. Enter on the keypad the number of frames (duration) for the DS Key Up/Down transition, and press **EFFECT DURATION**. With DS Key Up/Down, DS Key Up effect duration matches DS Key Down effect duration.

9. Press PREVIEW or PERFORM to preview or perform the DS Key Up/Down. The keyed video fades in at the point specified by the record entry point, then fades down at the specified exit.

   Example:

   - If duration of DS key is 90 frames and duration of fade is 30 frames, key fades in for 30 frames, stays full for 30 frames, fades down for 30 frames.
   - If duration of DS key is 100 frames and duration of fade is 30 frames, key fades in for 30 frames, stays full for 40 frames, fades down for 30 frames.

10. To change DS key source, press KEY, followed by the source.

You can preview just the effect by pressing **SWITCHER PREVIEW**. See paragraph 6-28 for details on **SWITCHER PREVIEW**. You can adjust the **FADER START** and **FADER END** positions. See paragraph 6-30 for details on Partial Effects.

See paragraph 6-31, "Sample Edits," for more examples of keys, with the accompanying screen and ECL displays.

## 6-28 SWITCHER PREVIEW

ACE 25's rotary knob can be used as a fader arm to preview A/B switcher transitions without moving tapes. The **SWITCHER PREVIEW** soft key is available on all transition choice menus: Dissolve menu, Wipe menu, and Key Type Selection menu. This mode is extremely useful to preview just the A/B transition, and saves time by avoiding preroll with each pass.

There are four logical faders on the ACE 25 internal video switchers: M/E Fader, Key Fader, DS Key Fader, and DS Black Fader. The "smart" aspect of the switcher preview mode is the ability of the software to determine which switcher fader the rotary knob controls when **SWITCHER PREVIEW** is pressed. Table 6-1 lists the specific internal switcher fader controlled by the rotary knob for each effect when in **SWITCHER PREVIEW** mode.

To use Switcher Preview mode, once an A/B effect is set up, press **SWITCHER PREVIEW**. This parks all source VTRs at their match frames, and places rotary knob in "manual." The effect is viewed by moving the rotary knob. If **SWITCHER PREVIEW** is not presently displayed, press the hard key for the effect currently set up (WIPE, DISS, or KEY), and the **SWITCHER PREVIEW** will be displayed.

Table 6-1. Switcher Preview Rotary Knob Control

| Effect Mode | Rotary Knob Control |
|---|---|
| Dissolve | M/E Fader |
| Wipe | M/E Fader |
| Wipe Key | Key Fader |
| Key Up | Key Fader |
| Key Down | Key Fader |
| Key Up/Down | Key Fader |
| DS Key Up | DS Key Fader |
| DS Key Down | DS Key Fader |
| DS Key Up/Down | DS Key Fader |
| DS Fade | DS Black Fader |

## 6-29 SWITCHER PREVIEW "PLAY"

Switcher Preview "Play" is an extension of Switcher Preview mode; it allows you to "play" through an effect and change parameters without rolling VTRs.

To initiate Switcher Preview "Play," proceed as follows:

1. Set up any A/B effect, such as a Dissolve, Wipe, or Key, and press **SWITCHER PREVIEW**. This parks all source VTRs at their match frames, and places rotary knob in "manual" as described above. The CRT status line shows the appropriate mode of knob control: Switcher Preview: (M/E fader, Key fader, DS Key fader, DS Black fader).

2. Press PLAY. This starts the selected transition. The fader arm is initialized to the **FADER START** position (See paragraph 6-30, "Partial Effects," for more information regarding **FADER START**). VTRs cue up to, and remain parked at, their matchframe points during the Switcher Preview "Play" transition.

3. PLAY mode includes a 1 second preroll and postroll. After postroll, sequence re-initializes to **FADER START** position and repeats.

4. Switcher Preview "Play" sequence repeats (loops) until terminated with a STOP, or ALLSTOP. This exits the Switcher Preview mode entirely. Edit parameters *can* be changed during the looping.

5. When in PLAY mode, pressing **SWITCHER PREVIEW** again returns fader arm to switcher preview "Manual." This cancels switcher preview PLAY mode, but does not exit the mode entirely.

6. During Switcher Preview "Play," many effect parameter soft keys remain active to permit changing parameters with effect in progress. Anytime a new parameter is entered, transition resets to fader start and repeats. Table 6-2 describes the effects and the active soft keys.

Table 6-2. Switcher Preview "Play" Active Soft Keys

| Effect Mode | Active Soft Keys |
|---|---|
| Dissolve | EFFECT DURATION |
| Wipe | EFFECT DURATION, NORMAL / REVERSE, WIPE PATTERN, H/S/O/o, BORDER WIDTH |
| Wipe Key | EFFECT DURATION, WIPE PATTERN, H/S/O/o, NORMAL / REVERSE, NORMAL / INVERT, LUM / CHROMA, INTERNAL / EXTERNAL |
| Key Up | EFFECT DURATION, NORMAL / INVERT, LUM / CHROMA, INTERNAL / EXTERNAL |
| Key Down | EFFECT DURATION, NORMAL / INVERT, LUM / CHROMA, INTERNAL / EXTERNAL |
| Key Up/Down | EFFECT DURATION, NORMAL / INVERT, LUM / CHROMA, INTERNAL / EXTERNAL |
| DS Key Up | EFFECT DURATION, NORMAL / INVERT, LUM / CHROMA, INTERNAL / EXTERNAL |
| DS Key Down | EFFECT DURATION, NORMAL / INVERT, LUM / CHROMA, INTERNAL / EXTERNAL |
| DS Key Up/Down | EFFECT DURATION, NORMAL / INVERT, LUM / CHROMA, INTERNAL / EXTERNAL |
| DS Fade | EFFECT DURATION |

## 6-30 PARTIAL EFFECTS

Partial effects work in conjunction with the Switcher Preview Play mode, and allow you to program the initial and final fader positions for any A/B effect. With Partials, you can program a mix to a "super," or a wipe to a split screen. On *all* Effect Parameter menus, two new soft keys, **FADER START** and **FADER END** are added. These two soft keys are shown below on the Dissolve menu:

In switcher preview "manual," mark partial fader positions as follows:

1. Set up an A/B edit. Press **SWITCHER PREVIEW**. Using the rotary knob, visually position the Mix, Wipe, or Key at the desired fader *start* point. This can be anywhere from full A-Bus to full B-Bus.

2. Press **FADER START**.

3. Using the rotary knob, visually position the fader for the Mix, Wipe, or Key at the desired fader *stop* point.

4. Press **FADER END**.

5. Press PLAY to enter the Switcher Preview Play mode, and preview the partial effect.

Fader positions for partials are displayed numerically in the EDL. To view these settings, press HOME, **MORE**, **DISPLAY CHANGE**, **EFFECTS**.

Partials are also "Tagged." In the EDL display, full A-Bus is 0, full B-Bus is 1000. Performing a partial edit which starts at 0 and ends at 500 will TAG to 500 as the fader start and stop points for the next edit.

Fader start/stop numbers can also be entered numerically and trimmed as follows:

1. In switcher preview mode, enter the number on the keypad and press **FADER START** to numerically enter a fader start value.

2. Enter the desired number on the keypad and press **FADER END**, to numerically enter a fader stop value.

For example, pressing (keypad) 0, **FADER START**, (keypad) 500, **FADER END**, gives you a mix to 50%.

## 6-31 SAMPLE EDITS

Paragraphs 6-32 through 6-63 provide step-by-step procedures for performing 32 sample edits, representing almost all combinations of edits and transitions on the ACE 25. An editor new to ACE 25 should practice these edits to become proficient in using the system.

Instructions for each sample edit have been abbreviated to help you develop a "routine" and build up speed when constructing each edit. In many cases, steps in a logical sequence have been combined on one line for continuity. For more detailed procedures for each individual effect, refer to the specific paragraph regarding that effect as noted in each sample.

Each sample edit includes a figure comprised of three items:

- Item designated A shows screen as it appears when edit is ready to preview or perform.
- Item designated B shows screen as it appears *after* edit is performed, with edit in EDL and tag points in ECL.
- Item designated C shows time line chart of edit.

You can edit along with this practice edit session if you have the following:

- Record tape with timecode starting at 00;00.
- Source "A" tape with timecode starting at 1;00;00;00.
- Source "B" tape with timecode starting at 2;00;00;00.
- Key sources on AUX 1 and AUX 2.

**Note**

**Tapes listed above are drop frame.**

## 6-32 Cut to A

*Sample Edit 1*

In this example, cut duration is set to 5 seconds.

Record a cut to source A as follows:

1. Press HOME.
2. Press R.
3. Mark or set the record VTR's entry point.
4. Press CUT to select effect.
5. Press A to select source.
6. Mark or set in a source entry point on source A.
7. Mark or set in an edit duration or leave edit open-ended.

   Figure 6-5 (A) shows the screen with the cut edit ready to perform.
8. PREVIEW or PERFORM the edit, or place edit in the EDL without recording by using **NEXT**.

   **Note**

   **Edit points can be trimmed as required.**

   Figure 6-5 (B) shows the screen with the edit in the EDL. Figure 6-5 (C) shows this Cut on a time line chart.

Refer to paragraphs 4-23, "Mark-in Editing," and 4-24, "Set-in Editing," for more detailed information on programming Cuts.

ACE 25:

| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1;00;02 | Stop | V12 | 1;00;02 | 1_05_02 | 5 00 | | A C |
| A | 1 | L | 1;00;00;00 | Stop | V12 | 1;00;00;00 | 1;00;05;00 | 5 00 | | A C |
| B | 2 | L | 2;00;00;00 | Stop | | | | | | A |
| C | 3 | | | | | | | | | |
| BLK | | | | | | ;00 | | | | |

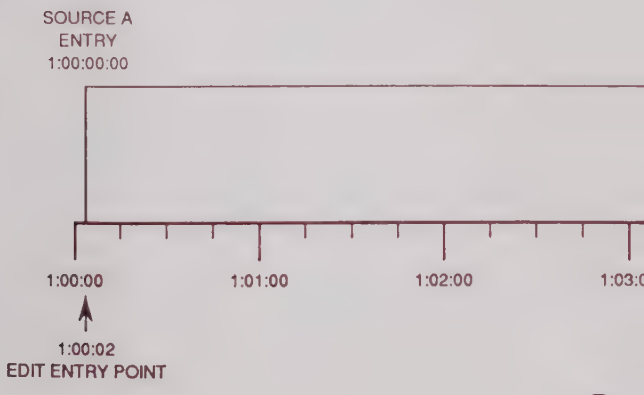
| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | V12 | Cut | | | 1;00;00;00 | 1;00;05;00 | 1;00;02 | 1_05_02 |

— EDL —

Edit Construction Menu 1: >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**A** **Ready to Edit**




**C**

ERFORM Completed Edit 1

| | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|
| | L | 1;05;14 | Stop | V12 | 1;05;02 | : : : | : : : | | AC |
| | L | 1;00;05;11 | Stop | V12 | 1;00;05;00 | : : : | : : : | | AC |
| | L | 2;00;00;00 | Stop | | : : : | : : : | : : : | | A |

,00

| V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|
| V12 | Cut | | | 1;00;05;00 | : : : | 1;05;02 | |
| V12 | Cut | | | 1;00;00;00 | 1;00;05;00 | 1;00;02 | 1_05_02 |

ruction Menu 1: >

NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**B** **Completed**

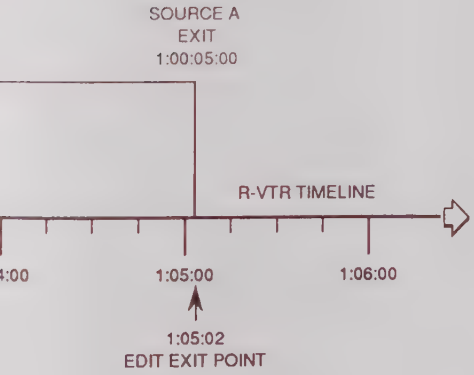



**Figure 6-5. Cut to A**

## 6-33 Dissolve from A to B

*Sample Edit 2*

In this example,

- tagged record entry time from previous edit is used, and
- duration of source B material is 5 seconds.

Record a dissolve from source A to source B as follows:

1. Press DISS to select effect.
2. Press B to select "To" source.
3. Mark or set in entry point for source B.
4. Enter a dissolve duration (in seconds or frames) using keypad and **EFFECT DURATION**.
5. Mark or set in duration for source B, or leave the edit open-ended.

   Figure 6-6 (A) shows the screen with the edit ready to perform.
6. PREVIEW or PERFORM the dissolve, or place edit in the EDL without recording by using **NEXT**.

   **Note**

   **Edit points can be trimmed as required.**

   Figure 6-6 (B) shows the screen with the edit in the EDL. Figure 6-6 (C) shows this dissolve on a time line chart.

Refer to paragraph 6-12, "Dissolve," for more detailed information on programming Dissolve effects.

ACE 25:

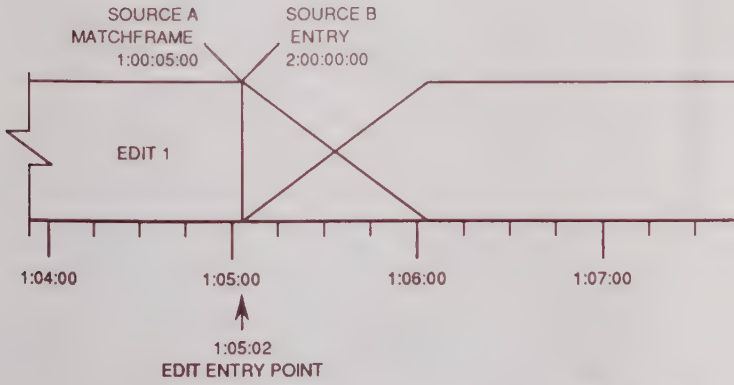
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1;05;14 | Stop | V12 | 1;05;02 | 1_10_02 | 5.00 | | AC |
| A | 1 | L | 1;00;05;11 | Stop | V12 | 1;00;05;00 | 1_00_05_00 | ,00 | | AC |
| B | 2 | L | 2;00;00;00 | Stop | V12 | 2;00;00;00 | 2;00;05;00 | 5.00 | | AC |
| C | 3 | | : : : | | | | | | | |
| BLK | | | | | | ,00 | | | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | V12 | Cut | | | 1;00;05;00 | 1_00_05_00 | 1;05;02 | 1_05_02 |
| 2 | 2 | V12 | Dis | | 30 | 2;00;00;00 | 2;00;05;00 | 1_05_02 | 1_10_02 |
| — EDL | | | | | | | | | |
| 1R | 1 | V12 | Cut | | | 1;00;00;00 | 1;00;05;00 | 1.00 02 | 1_05_02 |

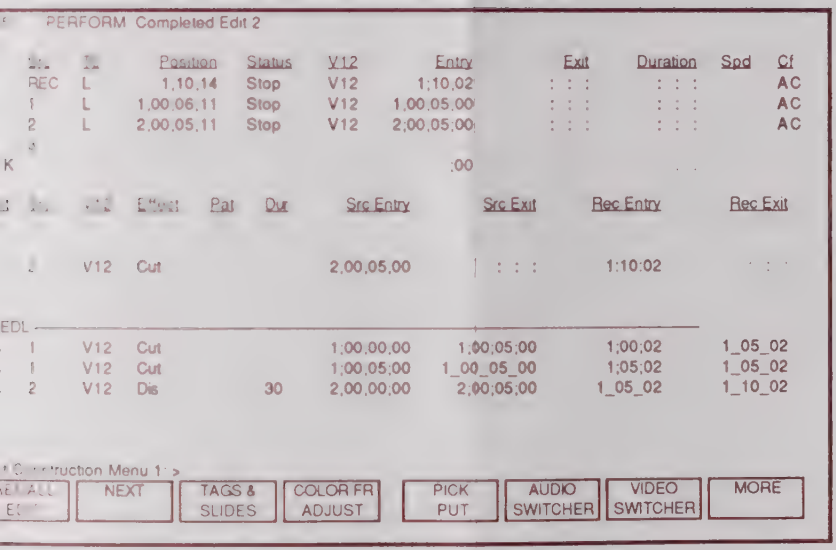
Edit Construction Menu 1: >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**A** **Ready to Edit**




**C** **Timeline**


PERFORM Completed Edit 2
Position Status V12 Entry Exit Duration Spd Cf
REC L 1,10,14 Stop V12 1;10,02 : : : : : : AC
1 L 1,00,06,11 Stop V12 1,00,05,00 : : : : : : AC
2 L 2,00,05,11 Stop V12 2,00,05,00 : : : : : : AC
Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
V12 Cut 2,00,05,00 : : : : 1:10:02 : : :
EDL
1 V12 Cut 1;00,00,00 1;00;05;00 1;00;02 1_05_02
1 V12 Cut 1;00,05;00 1_00_05_00 1;05;02 1_05_02
2 V12 Dis 30 2,00,00,00 2;00;05;00 1_05_02 1_10_02
NEXT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

**B** **Completed**

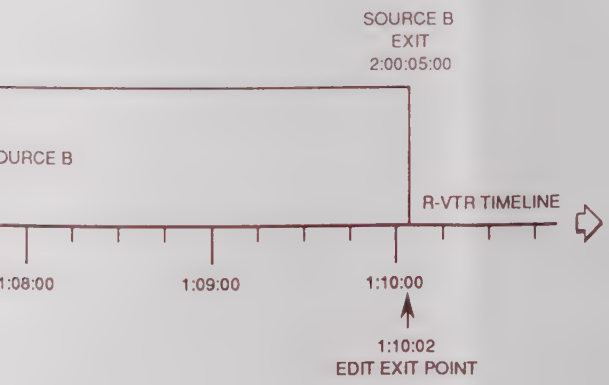



**Figure 6-6.**
**Dissolve From A to B**

## 6-34 Delayed Dissolve from B to A

*Sample Edit 3*

In this example,

- dissolve is delayed by 1 second,
- dissolve transition rate is 30 frames,
- tagged record entry time from previous edit is used, and
- duration of source A material is 5 seconds.

Record a delayed dissolve from source B to source A as follows:

1. Mark or set in delay on the "From" machine.
2. Press DISS to select effect.
3. Press A to select the "To" source.
4. Mark or set in entry point for source A.
5. Mark or set in edit duration for source A, or leave edit open-ended.

   Figure 6-7 (A) shows screen with delay dissolve ready to perform.
6. PREVIEW or PERFORM the delay dissolve, or place edit in the EDL without recording by using **NEXT**.

   **Note**

   **Edit points can be trimmed as required.**

   Figure 6-7 (B) shows screen with recorded edit in the EDL. Figure 6-7 (C) shows this delay dissolve on a time line.

Refer to paragraph 6-13, "Delayed Dissolve," for more detailed information on programming Delayed Dissolve effects.

ACE 25:

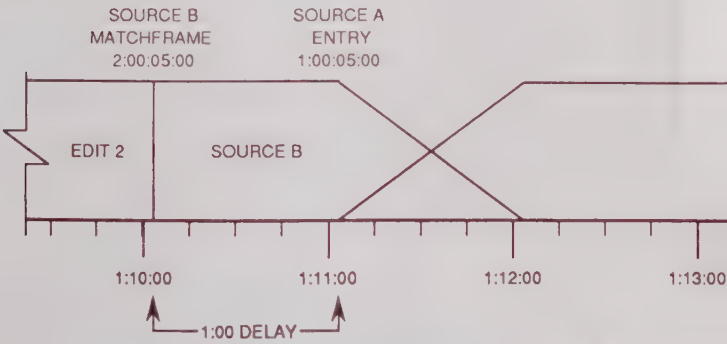
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1;10;14 | Stop | V12 | 1;10;02 | 1_16_02 | 6 00 | | A C |
| A | 1 | L | 1;00;06;11 | Stop | V12 | 1;00;05;00 | 1;00;10;00 | 5 00 | | A C |
| B | 2 | L | 2;00;05;11 | Stop | V12 | 2;00;05;00 | 2;00;06;00 | 1.00 | | A C |
| C | 3 | | | | | | | | | |
| BLK | | | | | | ,00 | | | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 3 | 2 | V12 | Cut | | | 2;00;05;00 | 2;00;06;00 | 1.10.02 | 1_11_02 |
| 3 | 1 | V12 | Dis | | 30 | 1;00;05;00 | 1;00;10;00 | 1_11_02 | 1_16_02 |
| — EDL | | | | | | | | | |
| 1R | 1 | V12 | Cut | | | 1;00;00;00 | 1;00;05;00 | 1 00.02 | 1_05_02 |
| 2R | 1 | V12 | Cut | | | 1;00;05;00 | 1_00_05_00 | 1 05.02 | 1_05_02 |
| 2R | 2 | V12 | Dis | | 30 | 2;00;00;00 | 2;00.05.00 | 1 05 02 | 1 10 02 |

Choose DISSOLVE parameters: >

[ ] [ ] [ ] EFFECT DURATION | SWITCHER PREVIEW | FADER START | FADER END | RETURN

**A** **Ready to Edit**




**C** **Timelin**

25 PERFORM Completed Edit 3

| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| | REC | L | 1,16,14 | Stop | V12 | 1;16;02 | : : : | : : : | | AC |
| | 1 | L | 1,00,10,11 | Stop | V12 | 1;00;10;00 | : : : | : : : | | AC |
| | 2 | L | 2,00,07,11 | Stop | V12 | 2;00;06;00 | : : : | : : : | | AC |
| | 3 | | | | | | | | | |

LK ;00

| dit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | V12 | Cut | | | 1;00;10;00 | : : : | 1;16;02 | |

EDL

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| R | 2 | V12 | Dis | 30 | 2;00;00;00 | 2;00;05;00 | 1_05_02 | 1_10_02 |
| R | 2 | V12 | Cut | | 2;00;05;00 | 2;00;06;00 | 1;10;02 | 1_11_02 |
| R | 1 | V12 | Dis | 30 | 1;00;05;00 | 1;00;10;00 | 1_11_02 | 1_16_02 |

dit Construction Menu 1 >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**B** **Completed**

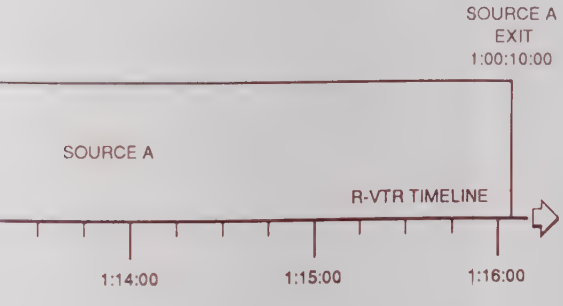
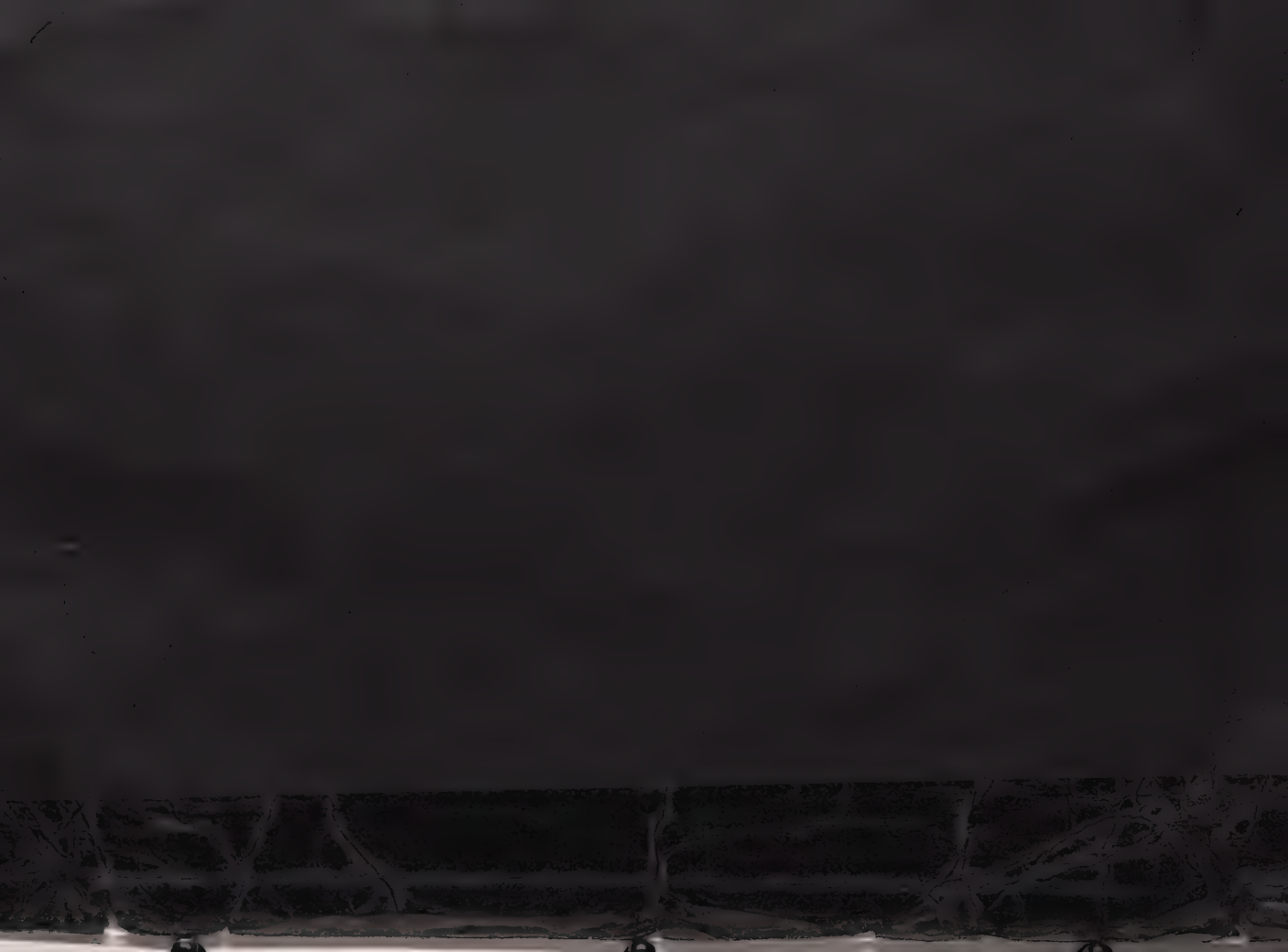



**Figure 6-7.**
**Delayed Dissolve From B to A**



## 6-35 Wipe from A to B

*Sample Edit 4*

In this example,

- tagged record entry time from previous edit is used, and
- duration of source B material is 5 seconds.

Record a wipe from source A to source B as follows:

1. Press WIPE.
2. Press B to select the "To" source.
3. Enter desired wipe pattern using keypad and **WIPE PATTERN**.
4. Select desired edge type using **H/S/O/o**.
5. Select desired wipe direction using **NORMAL/REVERSE**.
6. Enter desired effect duration using keypad and **EFFECT DURATION**.
7. Mark or set in entry point for source B.
8. Mark or set in edit duration for source B, or leave the edit open-ended.

   Figure 6-8 (A) shows screen with wipe ready to perform.
9. PREVIEW or PERFORM the wipe, or place edit in the EDL without recording by using **NEXT**.

   **Note**

   **Edit points can be trimmed as required.**

   Figure 6-8 (B) shows screen with recorded edit in the EDL. Figure 6-8 (C) shows this wipe on a time line.

Refer to paragraph 6-16, "Wipe," for more detailed information on programming wipe effects.

ACE 25:

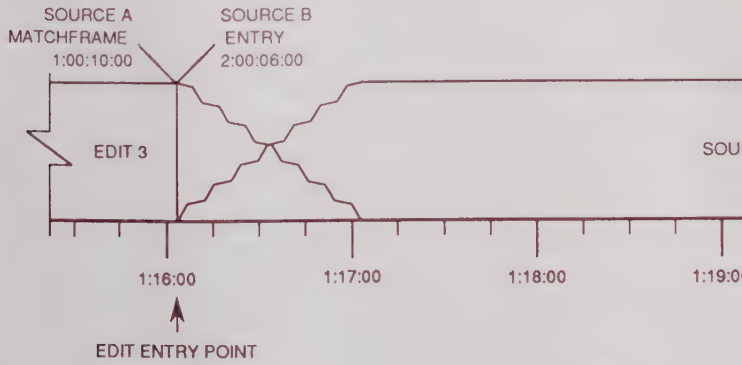
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1;16;14 | Stop | V12 | 1;16;02 | 1_21_02 | 5 00 | | A C |
| A | 1 | L | 1;00;10;11 | Stop | V12 | 1;00;10;00 | 1_00_10_00 | 00 | | A C |
| B | 2 | L | 2;00;07;11 | Stop | V12 | 2;00;06;00 | 2;00;11;00 | 5 00 | | A C |
| C | 3 | | | | | | | | | |
| BLK | | | | | | 00 | | | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 4 | 1 | V12 | Cut | | | 1;00;10;00 | 1_00_10_00 | 1 16 02 | 1_16_02 |
| 4 | 2 | V12 | Wipe | 1HN | 30 | 2;00;06;00 | 2;00;11;00 | 1_16_02 | 1_21_02 |
| — EDL | | | | | | | | | |
| 2R | 2 | V12 | Dis | | 30 | 2;00;00;00 | 2;00;05;00 | 1_05_02 | 1_10_02 |
| 3R | 2 | V12 | Cut | | | 2;00;05;00 | 2;00;06;00 | 1;10 02 | 1_11_02 |
| 3R | 1 | V12 | Dis | | 30 | 1;00;05;00 | 1;00;10;00 | 1_11_02 | 1_16_02 |

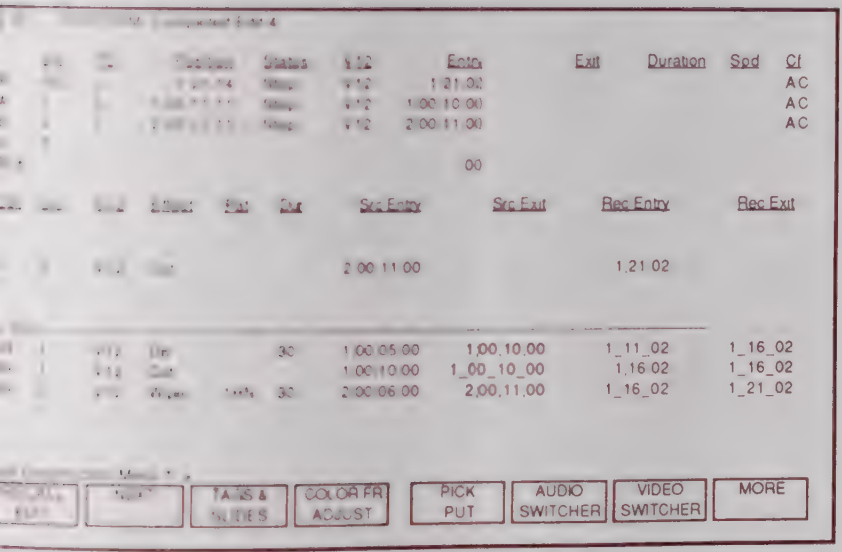
Choose WIPE parameters: >

H/S/O/o EDGE | NORMAL/ REVERSE | WIPE PATTERN | EFFECT DURATION | SWITCHER PREVIEW | BORDER WIDTH | KEY PARAMS | RETURN

**A** **Ready to Edit**




**C** **Timeline**




**B** **Completed**

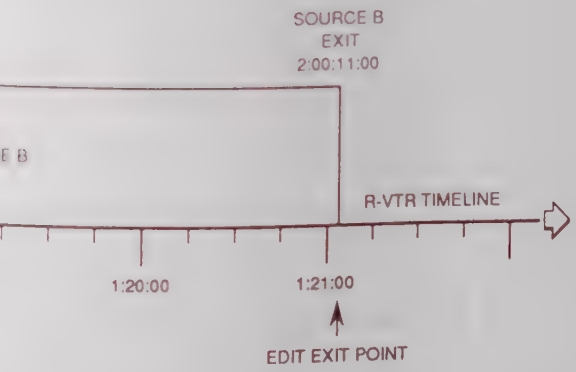



**Figure 6-8.**
**Wipe From A to B**

## 6-36 Delayed Wipe from B to A

*Sample Edit 5*

In this example,

- wipe is delayed by 1 second,
- wipe parameters from previous edit are used,
- tagged record entry time from previous edit is used, and
- duration of source A material is 5 seconds.

Record a delayed wipe from source B to source A as follows:

1. Mark or set in delay on the "From" machine.
2. Press WIPE to select effect.
3. Press A to select "To" source.
4. Mark or set in entry point for source A.
5. Mark or set in edit duration for source A, or leave the edit open-ended.

   Figure 6-9 (A) shows screen with delayed wipe ready to perform.
6. PREVIEW or PERFORM the wipe, or place edit in the EDL without recording by using **NEXT**.

   **Note**

   **Edit points can be trimmed as required.**

   Figure 6-9 (B) shows screen with recorded edit in the EDL. Figure 6-9 (C) shows this delayed wipe on a time line.

Refer to paragraph 6-17, "Delayed Wipe," for more detailed information on programming delayed wipe effects.

ACE 25:

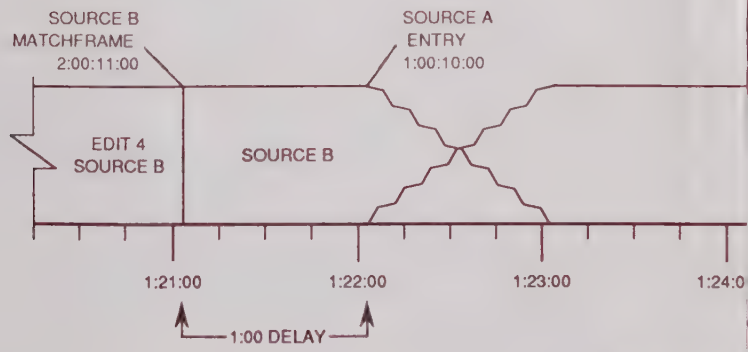
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1;21;14 | Stop | V12 | 1;21;02 | 1_21_02 | 6;00 | | AC |
| A | 1 | L | 1;00;11;11 | Stop | V12 | 1;00;10;00 | 1;00;15;00 | 5;00 | | AC |
| B | 2 | L | 2;00;11;11 | Stop | V12 | 2;00;11;00 | 2;00;12;00 | 1;00 | | AC |
| C | 3 | | : : : : | | | : : : : | | | | |
| BLK | | | | | | ;00 | | | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 2 | V12 | Cut | | | 2;00;11;00 | 2;00;12;00 | 1_21_02 | 1_22_02 |
| 5 | 1 | V12 | Cut | 1HN | 30 | 1;00;10;00 | 1;00;15;00 | 1_22_02 | 1_27_02 |
| — EDL | | | | | | | | | |
| 3R | 1 | V12 | Dis | | 30 | 1;00;05;00 | 1;00;10;00 | 1_11_02 | 1_16_02 |
| 4R | 1 | V12 | Cut | | | 1;00;10;00 | 1_00_10_00 | 1_16_02 | 1_16_02 |
| 4R | 2 | V12 | Wipe | 1HN | 30 | 2;00;06;00 | 2;00;11;00 | 1_16_02 | 1_21_02 |

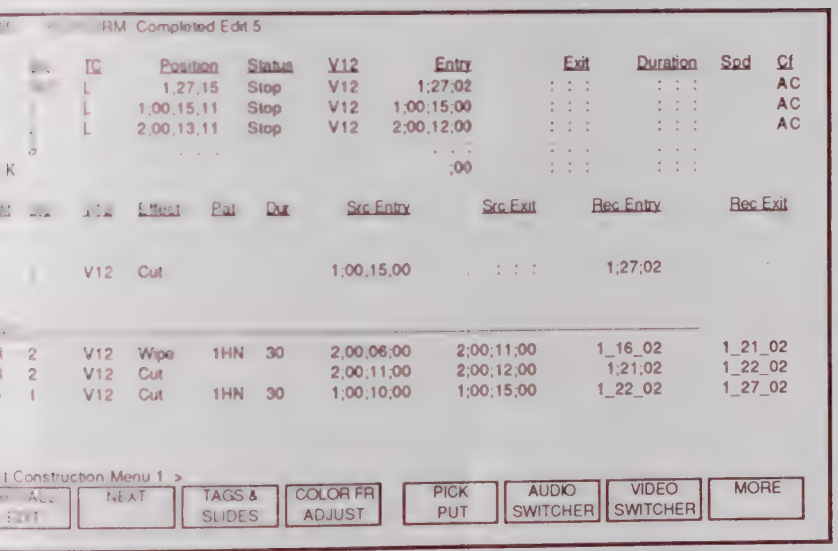
Choose WIPE parameters: >

H/S/O/o EDGE | NORMAL/ REVERSE | WIPE PATTERN | EFFECT DURATION | SWITCHER PREVIEW | BORDER WIDTH | KEY PARAMS | RETURN

**A** **Ready to Edit**




**C** **Timeline**




**B** **Completed**

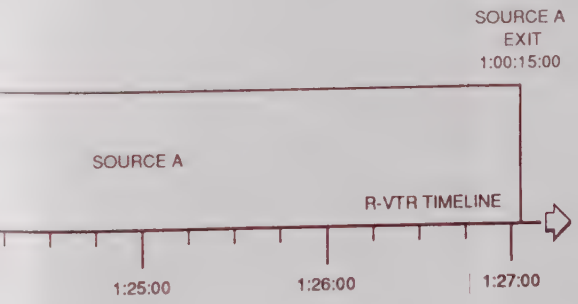



**Figure 6-9.**
**Delayed Wipe From B to A**

## 6-37 Cut Key

*Sample Edit 6*

In this example,

- key background is from source A,
- key foreground is from source AUX 1, and
- tagged record entry time from previous edit is used.

Record a cut key over source A as follows:

1. Mark or set in entry point for source A.
2. Mark or set in edit duration for source A, or leave edit open-ended.
3. Press KEY to select key mode.
4. Press **KEYS** to select upstream keys.
5. Press **CUT KEY** to select upstream key type.
6. Press AUX 1 to select the key foreground.
7. Select key parameters and clip the key.

   Figure 6-10 (A) shows screen with cut key ready to perform.
8. Trim edit points as required, PREVIEW or PERFORM the cut key, or place edit in the EDL without recording by using **NEXT**.

   Figure 6-10 (B) shows screen with recorded edit in the EDL. Figure 6-10 (C) shows this cut key on a time line.

Refer to paragraph 6-19, "Cut Key," for more detailed information on programming Cut Key effects.

ACE 25: Knob: Key Clip Level

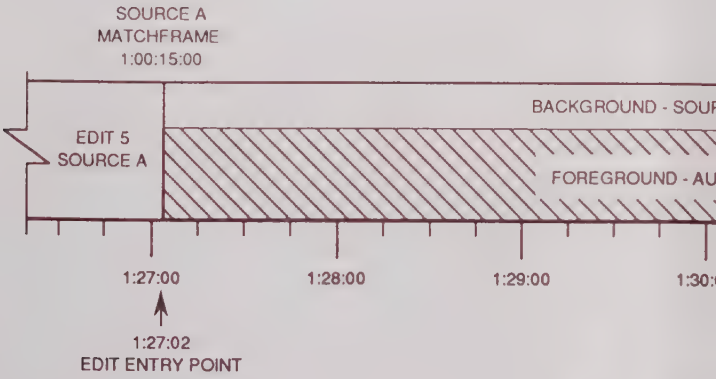
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1;27;15 | Stop | V12 | 1;27;02 | 1_32_02 | 5;00 | | AC |
| A | 1 | L | 1;00;15;11 | Stop | V12 | 1;00;15;00 | 1;00;20;00 | 5;00 | | AC |
| B | 2 | L | 2;00;13;11 | Stop | V12 | 2;00;12;00 | | | | AC |
| C | 3 | | | | | | | | | |
| Aux1 | | | | | | | ;00 | 5;00 | 5;00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 1 | V12 | Cut | | | 1;00;15;00 | 1;00;20;00 | 1;27;02 | 1_32_02 |
| 6 | Aux1 | V12 | CutKy | | | ;00 | 5_00 | 1;27;02 | 1_32_02 |
| — EDL — | | | | | | | | | |
| 4R | 2 | V12 | Wipe | 1HN | 30 | 2;00;06;00 | 2;00;11;00 | 1_16_02 | 1_21_02 |
| 5R | 2 | V12 | Cut | | | 2;00;11;00 | 2;00;12;00 | 1;21;02 | 1_22_02 |
| 5R | 1 | V12 | Cut | 1HN | 30 | 1;00;10;00 | 1;00;15;00 | 1_22_02 | 1_27_02 |

Choose KEY parameters: >

KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN

**A** **Ready to Edit**




**C** **Timelin**

**B** **Completed**

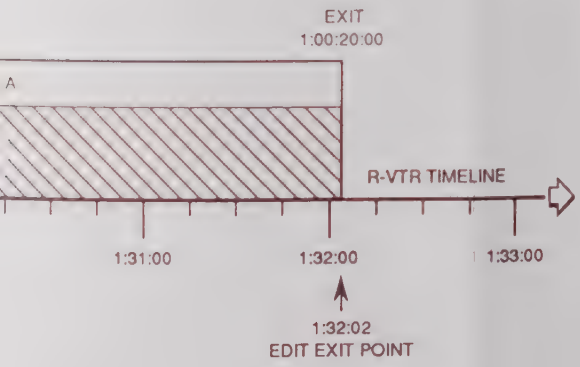



**Figure 6-10. Cut Key**

## 6-38 Delayed Cut Key

*Sample Edit 7*

In this example,

- key background is from source B,
- key foreground is from source AUX 2,
- key is delayed by 1 second, and
- tagged record entry time from previous edit is used.

Record a delayed cut key over source B as follows:

1. Press CUT, B to select key background.
2. Mark or set in entry point for source B.
3. Mark or set in edit duration for source B, or leave edit open-ended.
4. Press KEY, **KEYS**, **CUT KEY** to select upstream key effect.
5. Press AUX 2 to select the key foreground.
6. Select key parameters and clip the key as required.
7. Delay the key by trimming key foreground Record entry time.

   Figure 6-11 (A) shows screen with delayed cut key ready to perform.
8. Trim edit points as required, PREVIEW or PERFORM the delayed cut key, or place edit in the EDL without recording by using **NEXT**.

   Figure 6-11 (B) shows screen with recorded edit in the EDL. Figure 6-11 (C) shows this delayed cut key on a time line.

Refer to paragraph 6-19, "Cut Key," for more detailed information on programming delayed Cut Key effects.

ACE 25: Knob: Key Clip Level

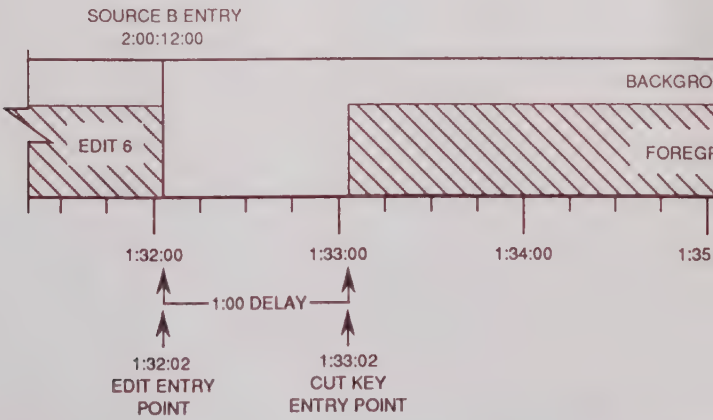
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1;32;14 | Stop | V12 | 1;32;02 | 1_37_02 | 5.00 | | A C |
| A | 1 | L | 1;00;20;11 | Stop | V12 | 1,00,20,00 | | | | A C |
| B | 2 | L | 2;00;13;11 | Stop | V12 | 2;00;12;00 | 2;00;17;00 | 5.00 | | A C |
| C | 3 | | : : : | | | : : : | : : : | | | |
| Aux2 | | | | | | | ;00 | 4.00 | 4 00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 2 | V12 | Cut | | | 2;00;12;00 | 2;00;17;00 | 1.32.02 | 1_37_02 |
| 7 | Aux2 | V12 | CutKy | | | ;00 | 4.00 | 1.32.02 | 1_37_02 |
| — EDL | | | | | | | | | |
| 5R | 1 | V12 | Cut | 1HN | 30 | 1;00;10;00 | 1;00;15;00 | 1_22_02 | 1_27_02 |
| 6R | 1 | V12 | Cut | | | 1;00;15;00 | 1;00;20;00 | 1.27.02 | 1_32 02 |
| 6R | Aux1 | V12 | CutKy | | | ;00 | 5_00 | 1.27.02 | 1_32_02 |

Choose KEY parameters: >

KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN

**A** **Ready to Edit**




**C** **Timelin**

**B** **Completed**

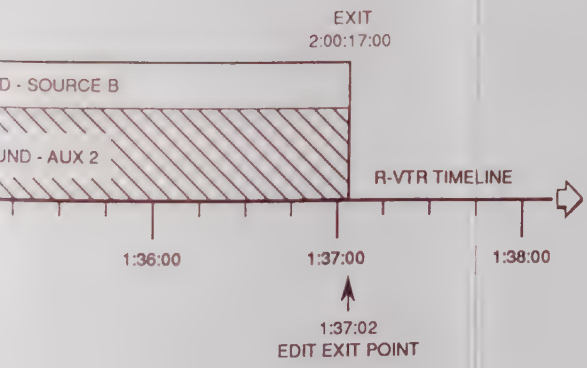



**Figure 6-11.**
**Delayed Cut Key**

## 6-39 Delayed Cut Key with Early Key Out

*Sample Edit 8*

In this example,

- key background is from source A, key foreground is from source AUX 1,
- key is delayed by 1 second and cuts out 1 second before background, and
- tagged record entry time from previous edit is used.

Record a delayed cut key with early cut out over source A as follows:

1. Press CUT, A to select key background.
2. Mark or set in entry point for source A.
3. Mark or set in edit duration for source A, or leave edit open-ended.
4. Press KEY, KEYS, CUT KEY to select upstream key effect.
5. Press AUX 1 to select the key foreground, select key parameters, and clip key as required.
6. Delay the key by trimming key foreground Record entry time.
7. Enable key to cut out early by trimming key foreground Record duration.

   Figure 6-12 (A) shows screen with delayed cut key ready to perform.
8. Trim edit points as required, PREVIEW or PERFORM the delayed cut key with early out, or place edit in the EDL without recording.

   Figure 6-12 (B) shows screen with recorded edit in the EDL. Figure 6-12 (C) shows this delayed cut key with early out on a time line.

Refer to paragraph 6-19, "Cut Key," for more detailed information on programming delayed cut keys with early out effects.

ACE 25:

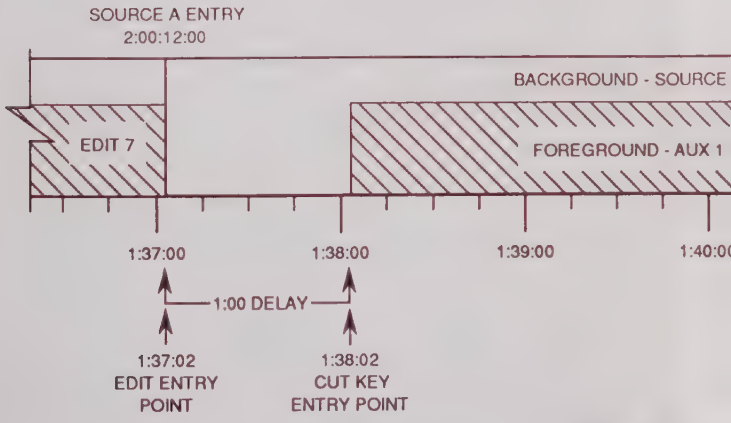
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cl |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1;37;14 | Stop | V12 | 1,37,02 | 1_42_02 | 5,00 | | AC |
| A | 1 | L | 1;00;20;11 | Stop | V12 | 1;00,20,00 | 1,00,25,00 | 5,00 | | AC |
| B | 2 | L | 2;00;17;11 | Stop | V12 | 2;00,17,00 | | | | AC |
| C | 3 | | | | | | | | | |
| Aux1 | | | | | | | ,00 | 3_00 | 3,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 1 | V12 | Cut | | | 1,00,20,00 | 1;00;25;00 | 1,37,02 | 1_42_02 |
| 8 | Aux1 | V12 | CutKy | | | ,00 | 3_00 | 1,38,02 | 1,41,02 |
| — EDL | | | | | | | | | |
| 6R | Aux1 | V12 | CutKy | | | ;00 | 5_00 | 1,27,02 | 1_32_02 |
| 7R | 2 | V12 | Cut | | | 2;00;12;00 | 2;00;17;00 | 1,32,02 | 1_37_02 |
| 7R | Aux2 | V12 | CutKy | | | ;00 | 4,00 | 1,32,02 | 1_37_02 |

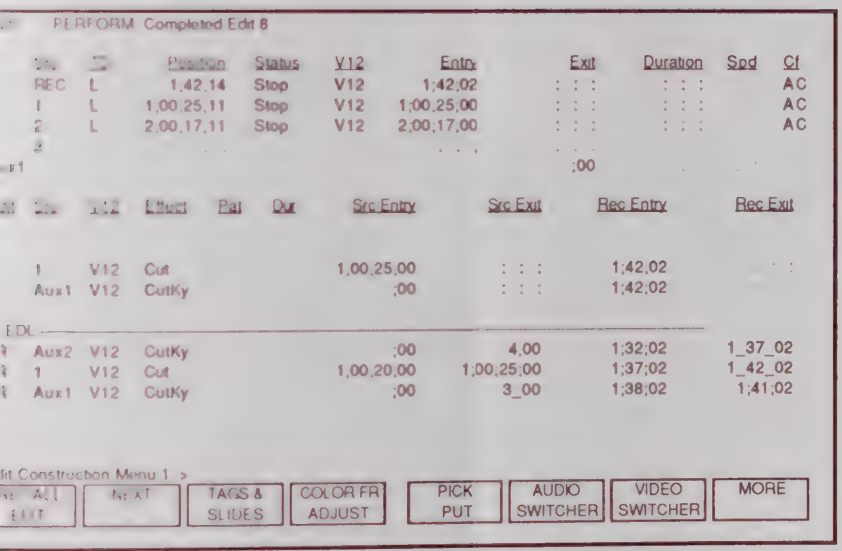
Choose new keyer or Delete/Modify current KEY effect: >

KEYS | DWNSTRM KEYS | DWNSTRM FADES | | SWITCHER PREVIEW | DELETE KEY | MODIFY KEY | RETURN

**A** **Ready to Edit**




**C** **Timeline**


PERFORM Completed Edit 8
Position Status V12 Entry Exit Duration Spd Cf
REC L 1;42;14 Stop V12 1;42;02 : : : : : : AC
1 L 1;00;25;11 Stop V12 1;00;25;00 : : : : : : AC
2 L 2;00;17;11 Stop V12 2;00;17;00 : : : : : : AC
;00
Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
1 V12 Cut 1;00;25;00 : : : 1;42;02
Aux1 V12 CutKy ;00 : : : 1;42;02
EDL
Aux2 V12 CutKy ;00 4;00 1;32;02 1_37_02
1 V12 Cut 1;00;20;00 1;00;25;00 1;37;02 1_42_02
Aux1 V12 CutKy ;00 3_00 1;38;02 1;41;02
Construction Menu 1 >
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

**B** **Completed**

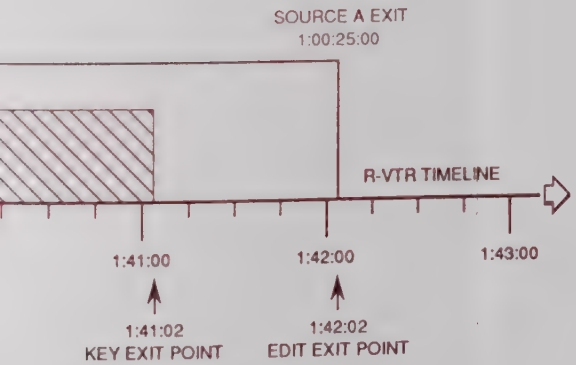



**Figure 6-12.**
**Delayed Cut Key with Early Key Out**

## 6-40 Key Up

*Sample Edit 9*

In this example,

- key background is from source A, key foreground is from source AUX 1,
- effect duration is 30 frames, and
- tagged record entry time from previous edit is used.

Record a key up over source A as follows:

1. Press CUT, A to select key background.
2. Mark or set in entry point for source A.
3. Mark or set in edit duration for source A, or leave edit open-ended.
4. Press KEY, **KEYS**, **DISS KEY UP** to select upstream key effect.
5. Press AUX 1 to select the key foreground, and clip key as required.
6. Enter effect duration using keypad and **EFFECT DURATION**.

   Figure 6-13 (A) shows screen with the key up ready to perform.
7. Trim edit points as required, PREVIEW or PERFORM the key up, or place edit in the EDL without recording.

   **Note**

   **Use SWITCHER PREVIEW mode to preview effect and change parameters on-the-fly.**

   Figure 6-13 (B) shows screen with recorded edit in the EDL. Figure 6-13 (C) shows this key up on a time line.

Refer to paragraph 6-20, "Key Up," for more detailed information on programming key up effects.

ACE 25: Knob: Key Clip Level

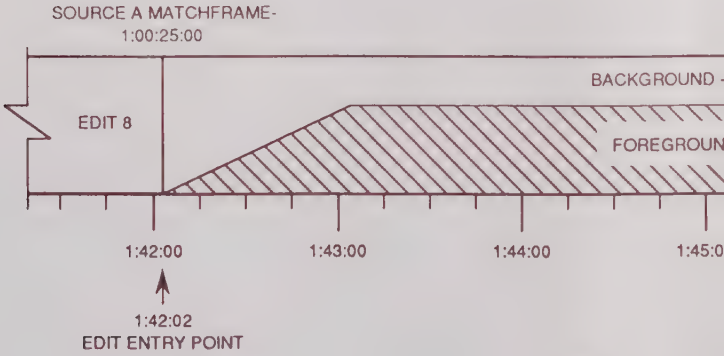
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1;42;14 | Stop | V12 | 1;42;02 | 1;47,02 | 5,00 | | AC |
| A | 1 | L | 1;00;25;11 | Stop | V12 | 1;00;25;00 | 1_00_30_00 | 5,00 | | AC |
| B | 2 | L | 2;00;17;11 | Stop | V12 | 2;00;17;00 | : : | | | AC |
| C | 3 | | : : : : | | | : : : : | | | | |
| Aux1 | | | | | | | ,00 | 5_00 | 5,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 9 | 1 | V12 | Cut | | | 1;00;25;00 | 1_00_30_00 | 1,42,02 | 1,47 02 |
| 9 | Aux1 | V12 | KyUp | | 30 | ;00 | 5_00 | 1,42,02 | 1 _47 _02 |
| — EDL | | | | | | | | | |
| 7R | Aux2 | V12 | CutKy | | | ;00 | 4,00 | 1,32,02 | 1_37 02 |
| 8R | 1 | V12 | Cut | | | 1;00;20;00 | 1;00;25,00 | 1,37,02 | 1_42 02 |
| 8R | Aux1 | V12 | CutKy | | | ;00 | 3_00 | 1,38,02 | 1,41,02 |

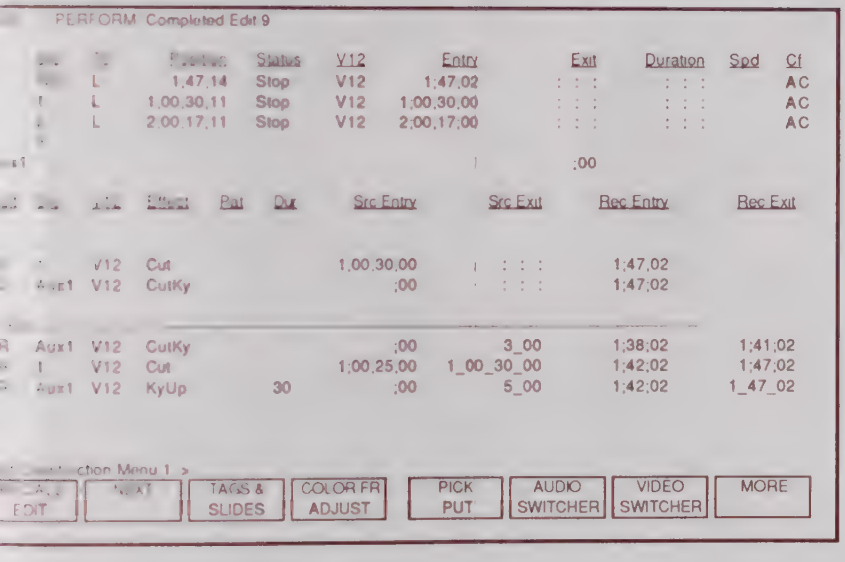
Choose KEY parameters: >

KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN

**A** **Ready to Edit**




**C** **Timeline**


PERFORM Completed Edit 9
Status V12 Entry Exit Duration Spd Cf
1;47;14 Stop V12 1;47;02 AC
1;00;30;11 Stop V12 1;00;30;00 AC
2;00;17;11 Stop V12 2;00;17;00 AC
;00
Pat Dur Src Entry Src Exit Rec Entry Rec Exit
V12 Cut 1;00;30;00 1;47;02
Aux1 V12 CutKy ;00 1;47;02
Aux1 V12 CutKy ;00 3_00 1;38;02 1;41;02
V12 Cut 1;00;25;00 1_00_30_00 1;42;02 1;47;02
Aux1 V12 KyUp 30 ;00 5_00 1;42;02 1_47_02
EDIT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

**B** **Completed**

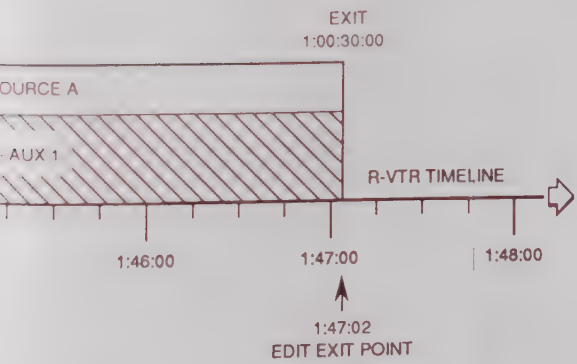



**Figure 6-13. Key Up**

## 6-41 Delayed Key Up

*Sample Edit 10*

In this example,

- key background is from source B, key foreground is from source AUX 2,
- effect duration is 30 frames,
- key is delayed by 1 second, and
- tagged record entry time from previous edit is used.

Record a delayed key up over source B as follows:

1. Press CUT, B to select key background.
2. Mark or set in entry point for source B.
3. Mark or set in edit duration for source B, or leave edit open-ended.
4. Press KEY, **KEYS**, **DISS KEY UP** to select upstream key effect.
5. Press AUX 2 to select the key foreground, select key parameters, and clip key as required.
6. Enter effect duration using keypad and **EFFECT DURATION**.
7. Delay the key up by trimming key foreground Record entry time.

   Figure 6-14 (A) shows screen with delayed key up ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM delayed key up, or place edit in EDL without recording.

   Figure 6-14 (B) shows screen with recorded edit in the EDL. Figure 6-14 (C) shows this delayed key up on a time line.

Refer to paragraph 6-20, "Key Up," for more detailed information on programming delayed key up effects.

ACE 25: Knob: Key Clip Level

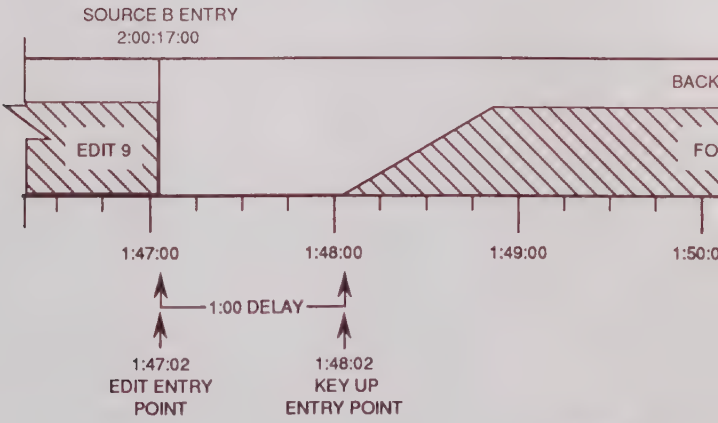
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1;47;14 | Stop | V12 | 1;47;02 | 1_52_02 | 5,00 | | AC |
| A | 1 | L | 1;00;30;11 | Stop | V12 | 1;00;30;00 | : : : | | | AC |
| B | 2 | L | 2;00;17;11 | Stop | V12 | 2;00;17;00 | 2;00;22;00 | 5,00 | | AC |
| C | 3 | | : : : | | | : : : | | | | |
| Aux2 | | | | | | | ;00 | 4_00 | 4,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 2 | V12 | Cut | | | 2;00;17;00 | 2;00;22;00 | 1,47,02 | 1_52_02 |
| 10 | Aux2 | V12 | KyUp | | 30 | ;00 | 4_00 | 1,48,02 | 1_52_02 |
| — EDL — | | | | | | | | | |
| 8R | Aux1 | V12 | CutKy | | | ;00 | 3_00 | 1,38,02 | 1,41,02 |
| 9R | 1 | V12 | Cut | | | 1;00;25;00 | 1_00_30_00 | 1,42,02 | 1,47,02 |
| 9R | Aux1 | V12 | KyUp | | 30 | ;00 | 5_00 | 1,42,02 | 1_47_02 |

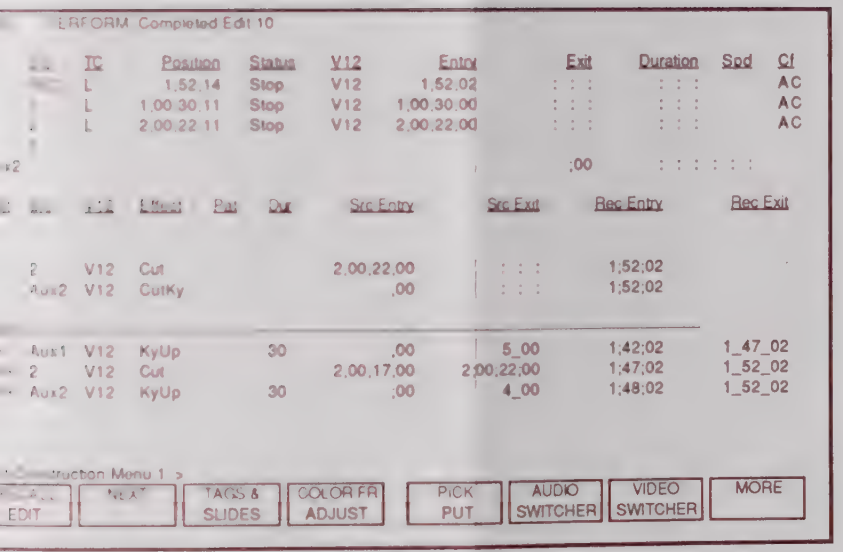
Choose KEY parameters: >

KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN

**A** **Ready to Edit**




**C** **Timelin**




B Completed

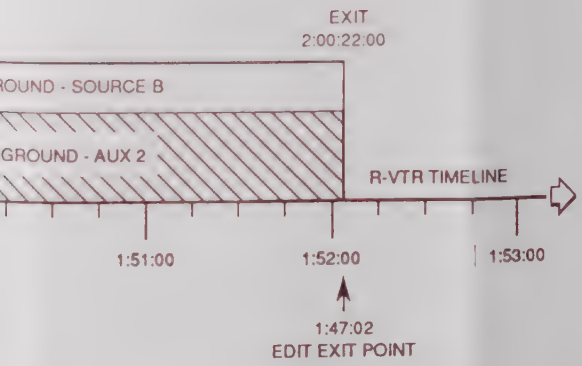



**Figure 6-14.**
**Delayed Key Up**

## 6-42 Delayed Key Up with Early Cut Out

*Sample Edit 11*

In this example,

- key background is from source B, key foreground is from source AUX 2,
- effect duration is 30 frames,
- key is delayed by 1 second and cuts out 1 second before background, and
- tagged record entry time from previous edit is used.

Record a delayed key up with early cut out over source B as follows:

1. Press CUT, B to select key background, and mark or set in entry point.
2. Mark or set in edit duration for source B, or leave edit open-ended.
3. Press KEY, **KEYS**, **DISS KEY UP** to select upstream key effect.
4. Press AUX 2 to select the key foreground, and clip key as required.
5. Enter effect duration using keypad and **EFFECT DURATION**.
6. Delay the key up by trimming key foreground Record entry time.
7. Enable key to cut out early by trimming key foreground Record duration.

   Figure 6-15(A) shows screen with delayed key up ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM delayed key up, or place edit in EDL without recording.

   Figure 6-15 (B) shows screen with recorded edit in the EDL. Figure 6-15 (C) shows this delayed key up on a time line.

Refer to paragraph 6-20, "Key Up," for more detailed information on programming delayed key ups with early cut out effects.

ACE 25:

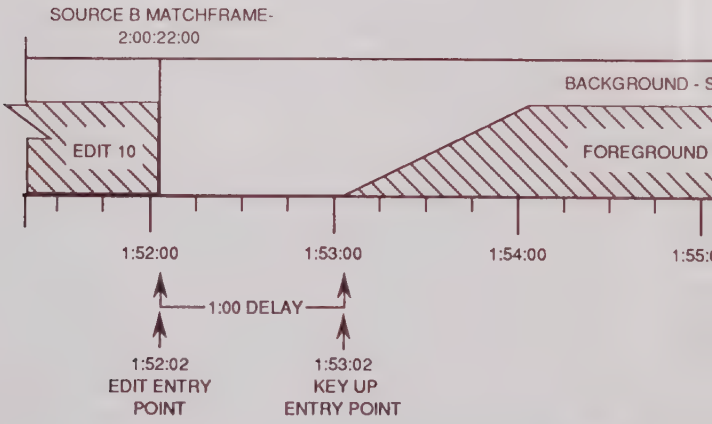
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1;52;14 | Stop | V12 | 1;52;02 | 1;57;02 | 5,00 | | AC |
| A | 1 | L | 1;00;30;11 | Stop | V12 | 1;00;30;00 | : : : | : : : | | AC |
| B | 2 | L | 2;00;22;11 | Stop | V12 | 2;00;22;00 | 2_00_27_00 | 5,00 | | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux2 | | | | | | | ;00 | 3_00 | 3,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 11 | 2 | V12 | Cut | | | 2;00;22;00 | 2_00_27_00 | 1;52;02 | 1;57;02 |
| 11 | Aux2 | V12 | KyUp | | 30 | ;00 | 3_00 | 1;53;02 | 1;56;02 |
| — EDL | | | | | | | | | |
| 9R | Aux1 | V12 | KyUp | | 30 | ;00 | 5_00 | 1;42;02 | 1_47_02 |
| 10R | 2 | V12 | Cut | | | 2;00;17;00 | 2;00;22;00 | 1;47;02 | 1_52_02 |
| 10R | Aux2 | V12 | KyUp | | 30 | ;00 | 4_00 | 1;48;02 | 1_52_02 |

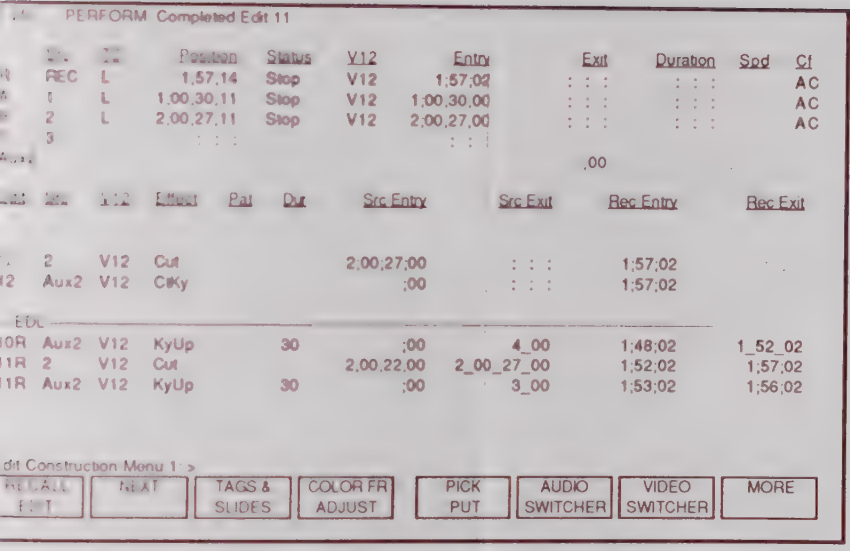
Choose new keyer or Delete/Modify current KEY effect: >

KEYS | DWNSTRM KEYS | DWNSTRM FADES | | SWITCHER PREVIEW | DELETE KEY | MODIFY KEY | RETURN

**A** **Ready to Edit**




**C** **Timelin**




**B** Completed

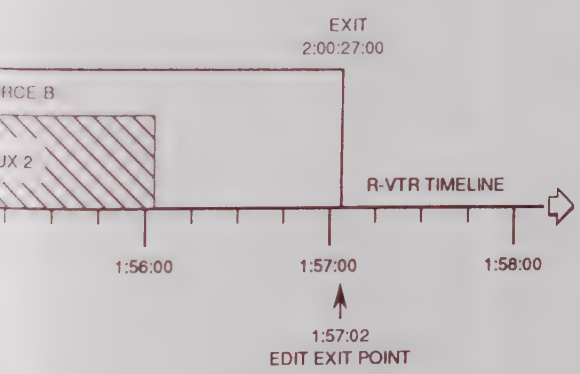



**Figure 6-15.**
**Delayed Key Up, Early Key Out**

## 6-43 Key Down

*Sample Edit 12*

In this example,

- key background is from source A, key foreground is from source AUX 1,
- effect duration is 30 frames, and
- tagged record entry time from previous edit is used.

Record a key down over source A as follows:

1. Press CUT, A to select key background.
2. Mark or set in entry point for source A.
3. Mark or set in edit duration for source A, or leave edit open-ended.
4. Press KEY, KEYS, DISS KEY DOWN to select upstream key effect.
5. Press AUX 1 to select the key foreground, select key parameters, and clip key as required.
6. Enter effect duration using keypad and **EFFECT DURATION**.
7. Set total key down duration by trimming key foreground Record Duration.

   Figure 6-16 (A) shows screen with key down ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM key down, or place edit in EDL without recording.

   Figure 6-16 (B) shows screen with recorded edit in the EDL. Figure 6-16 (C) shows this key down on a time line.

Refer to paragraph 6-21, "Key Down," for more detailed information on programming key down effects.

ACE 25: Knob: Key Clip Level

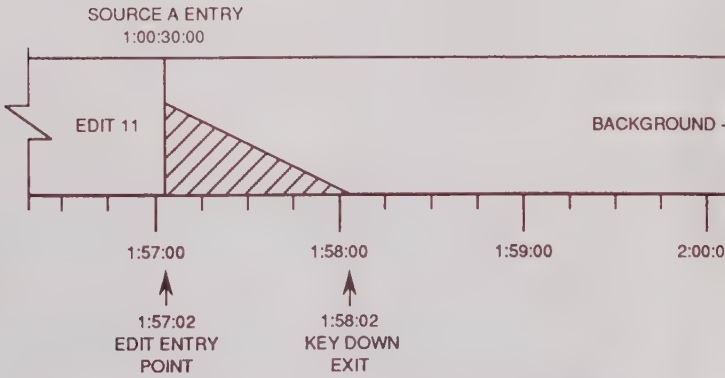
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 1,57,14 | Stop | V12 | 1,57,02 | 2_02_04 | 5,00 | | AC |
| A | 1 | L | 1;00;30;11 | Stop | V12 | 1;00;30;00 | 1;00;35;00 | 5,00 | | AC |
| B | 2 | L | 2;00;27;11 | Stop | V12 | 2;00;27;00 | : : : | | | AC |
| C | 3 | | : : : | | | : : : | : : : | | | |
| Aux2 | | | | | | | ;00 | 1,00 | 1,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 12 | 1 | V12 | Cut | | | 1;00;30;00 | 1;00;35;00 | 1;57,02 | 2_02_04 |
| 12 | Aux1 | V12 | KyDn | | 30 | ;00 | 1;00 | 1;57,02 | 1_58_02 |
| — EDL — | | | | | | | | | |
| 10R | Aux2 | V12 | KyUp | | 30 | ;00 | 4_00 | 1,48,02 | 1_52_02 |
| 11R | 2 | V12 | Cut | | | 2;00;22;00 | 2_00_27_00 | 1,52,02 | 1;57,02 |
| 11R | Aux2 | V12 | KyUp | | 30 | ;00 | 3_00 | 1,53,02 | 1,56,02 |

Choose new keyer or Delete/Modify current KEY effect: >

KEYS | DWNSTRM KEYS | DWNSTRM FADES | | SWITCHER PREVIEW | DELETE KEY | MODIFY KEY | RETURN

**A** **Ready to Edit**




**C** **Timeline**

ERFORM Completed Edit 12
TC Position Status V12 Entry Exit Duration Spd Ct
REC L 2:02:16 Stop V12 2:02:04 : : : : : : AC
L 1:00:35:11 Stop V12 1:00:35:00 : : : : : : AC
L 2:00:27:11 Stop V12 2:00:27:00 : : : : : : AC
;00
Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
V12 Cut 1:00:35:00 : : : 2:02:04
Aux2 V12 KyUp 30 ;00 3_00 1:53:02 1:56:02
1 V12 Cut 1:00:30:00 1:00:35:00 1:57:02 2_02_04
Aux1 V12 KyDn 30 ;00 1:00 1:57:02 1_58_02
Construction Menu 1 >
EDIT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

**B** **Completed**

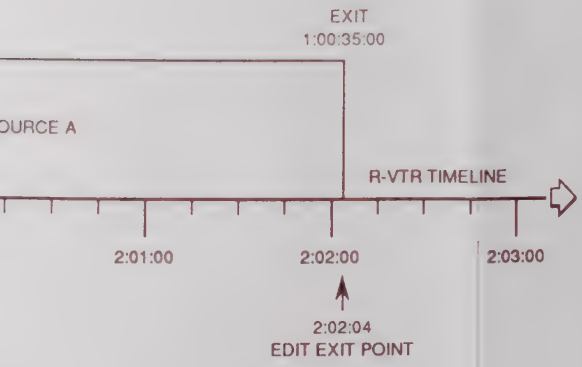



**Figure 6-16. Key Down**

## 6-44 Delayed Key Down

*Sample Edit 13*

In this example,

- key background is from source A, key foreground is from source AUX 1,
- effect duration is 30 frames, total key duration is 3 seconds, and
- tagged record entry time from previous edit is used.

Record a delayed key down over source A as follows:

1. Press CUT, A to select key background.
2. Mark or set in entry point for source A.
3. Mark or set in edit duration for source A, or leave edit open-ended.
4. Press KEY, **KEYS**, **DISS KEY DOWN** to select upstream key effect.
5. Press AUX 1 to select the key foreground, select key parameters, and clip key as required.
6. Enter effect duration using keypad and **EFFECT DURATION**.
7. Set total key down duration (delay) by trimming key foreground Record Duration.

   Figure 6-17 (A) shows screen with delayed key down ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM delayed key down, or place edit in EDL without recording.

   Figure 6-17 (B) shows screen with recorded edit in the EDL. Figure 6-17 (C) shows this delayed key down on a time line.

Refer to paragraph 6-21, "Key Down," for more detailed information on programming delayed key down effects.

ACE 25: Knob: Key Clip Level

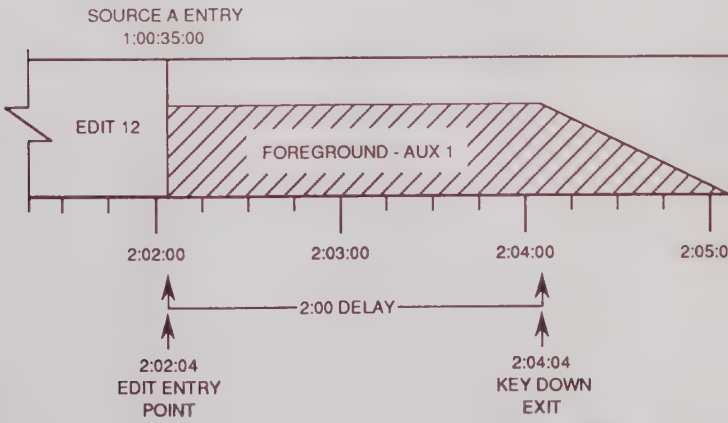
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 2;02;16 | Stop | V12 | 2;02;04 | 2_07_04 | 5 00 | | AC |
| A | 1 | L | 1;00;35;11 | Stop | V12 | 1;00;35;00 | 1;00;40;00 | 5;00 | | AC |
| B | 2 | L | 2;00;27;11 | Stop | V12 | 2;00;27;00 | | | | AC |
| C | 3 | | | | | | | | | |
| Aux2 | | | | | | | ;00 | 3_00 | 3;00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 13 | 1 | V12 | Cut | | | 1;00;35;00 | 1;00;40;00 | 2;02;04 | 2_07_04 |
| 13 | Aux1 | V12 | KyDn | | 30 | ;00 | 3_00 | 2_02_04 | 2;05;04 |
| — EDL — | | | | | | | | | |
| 11R | Aux2 | V12 | KyUp | | 30 | ;00 | 3_00 | 1;53;02 | 1 56 02 |
| 12R | 1 | V12 | Cut | | | 1;00;30;00 | 1;00;35;00 | 1;57;02 | 2_02_04 |
| 12R | Aux1 | V12 | KyDn | | 30 | ;00 | 1;00 | 1;57;02 | 1_58_02 |

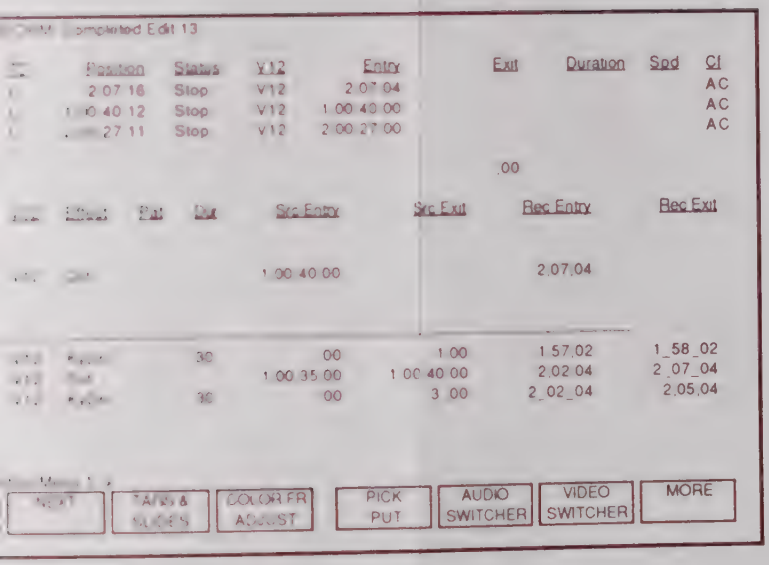
Choose KEY parameters: >

KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN

**A** **Ready to Edit**




**C** **Timeline**




**B** Completed

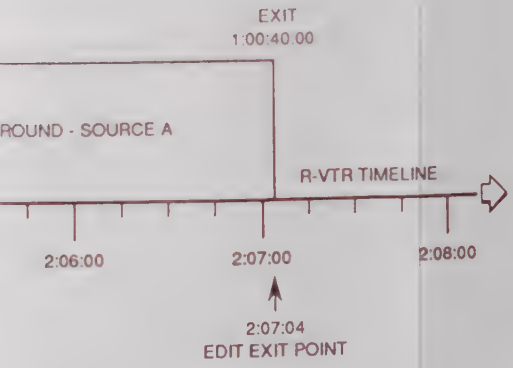



**Figure 6-17.**
**Delayed Key Down**

## 6-45 Key Up/Down

*Sample Edit 14*

In this example,

- key background is from source B, key foreground is from source AUX 2,
- effect duration is 30 frames, total key duration is 5 seconds, and
- tagged record entry time from previous edit is used.

Record a key up/down over source B as follows:

1. Press CUT, B to select key background.
2. Mark or set in entry point for source B.
3. Mark or set in edit duration for source B, or leave edit open-ended.
4. Press KEY, **KEYS**, **DISS KEY UP & DOWN** to select key effect.
5. Press AUX 2 to select the key foreground, select key parameters, and clip key as required.
6. Enter effect duration using keypad and **EFFECT DURATION**, noting that key up and key down durations are equal.
7. Set total key up/down duration by trimming key foreground Record Duration.

   Figure 6-18 (A) shows screen with key up/down ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM key up/down, or place edit in EDL without recording.

   Figure 6-18 (B) shows screen with recorded edit in the EDL. Figure 6-18(C) shows this key up/down on a time line.

Refer to paragraph 6-22, "Key Up/Down," for more detailed information on programming key up/down effects.

ACE 25:

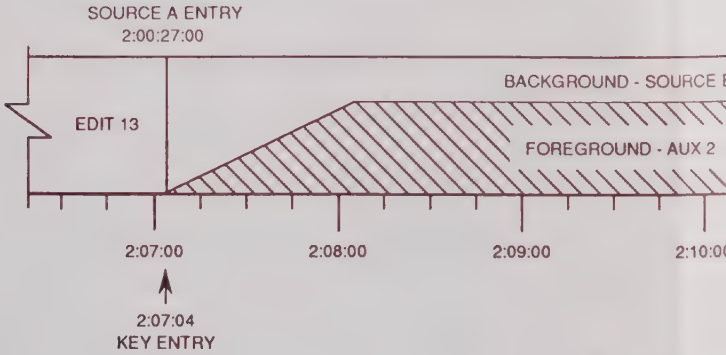
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 2;07;16 | Stop | V12 | 2;07;04 | 2_12_04 | 5,00 | | AC |
| A | 1 | L | 1;00;40;12 | Stop | V12 | 1;00;40;00 | : : : | : : | | AC |
| B | 2 | L | 2;00;27;11 | Stop | V12 | 2;00;27;00 | 2;00;32;00 | 5,00 | | AC |
| C | 3 | | : : : | | | : : : | : : : | : : | | |
| Aux2 | | | | | | | ,00 | 5,00 | 5,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 14 | 2 | V12 | Cut | | | 2;00;27;00 | 2;00;32;00 | 2;07;04 | 2_12_04 |
| 14 | Aux2 | V12 | KyUpDn | | 30 | ;00 | 5;00 | 2_07_04 | 2_12_04 |
| — EDL — | | | | | | | | | |
| 12R | Aux1 | V12 | KyDn | | 30 | ;00 | 1;00 | 1;57;02 | 1_58_02 |
| 13R | 1 | V12 | Cut | | | 1;00;35;00 | 1;00;40;00 | 2;02;04 | 2_07_04 |
| 13R | Aux1 | V12 | KyDn | | 30 | ;00 | 3_00 | 2_02_04 | 2,05,04 |

Choose KEY parameters: >

KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN

**A** **Ready to Edit**




**C** **Timeline**

PERFORM Completed Edit 14

| | | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|
| C | L | 2,12,16 | Stop | V12 | 2;12;04 | : : : | : : : | | AC |
| | L | 1;00;40;12 | Stop | V12 | 1;00;40;00 | : : : | : : : | | AC |
| | L | 2;00;32;11 | Stop | V12 | 2;00;32;00 | : : : | : : : | | AC |
| | | | | | | ,00 | : : : | | |

| | | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|
| | V12 | Cut | | | 2;00;32;00 | : : : : | 2;12;04 | |
| R1 | V12 | KyDn | 30 | | ;00 | 3_00 | 2_02_04 | 2;05;04 |
| | V12 | Cut | | | 2;00;27;00 | 2;00;32;00 | 2;07;04 | 2_12_04 |
| R2 | V12 | KyUpDn | 30 | | ;00 | 5;00 | 2_07_04 | 2_12_04 |

Function Menu 1 →

NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**B** **Completed**

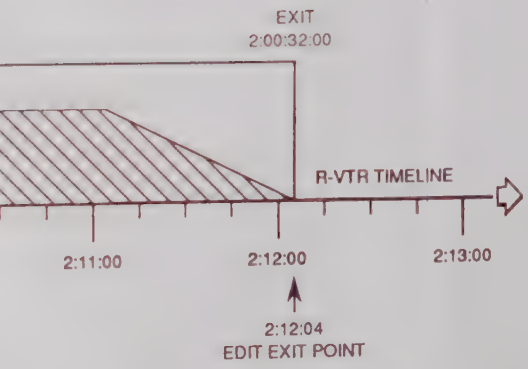
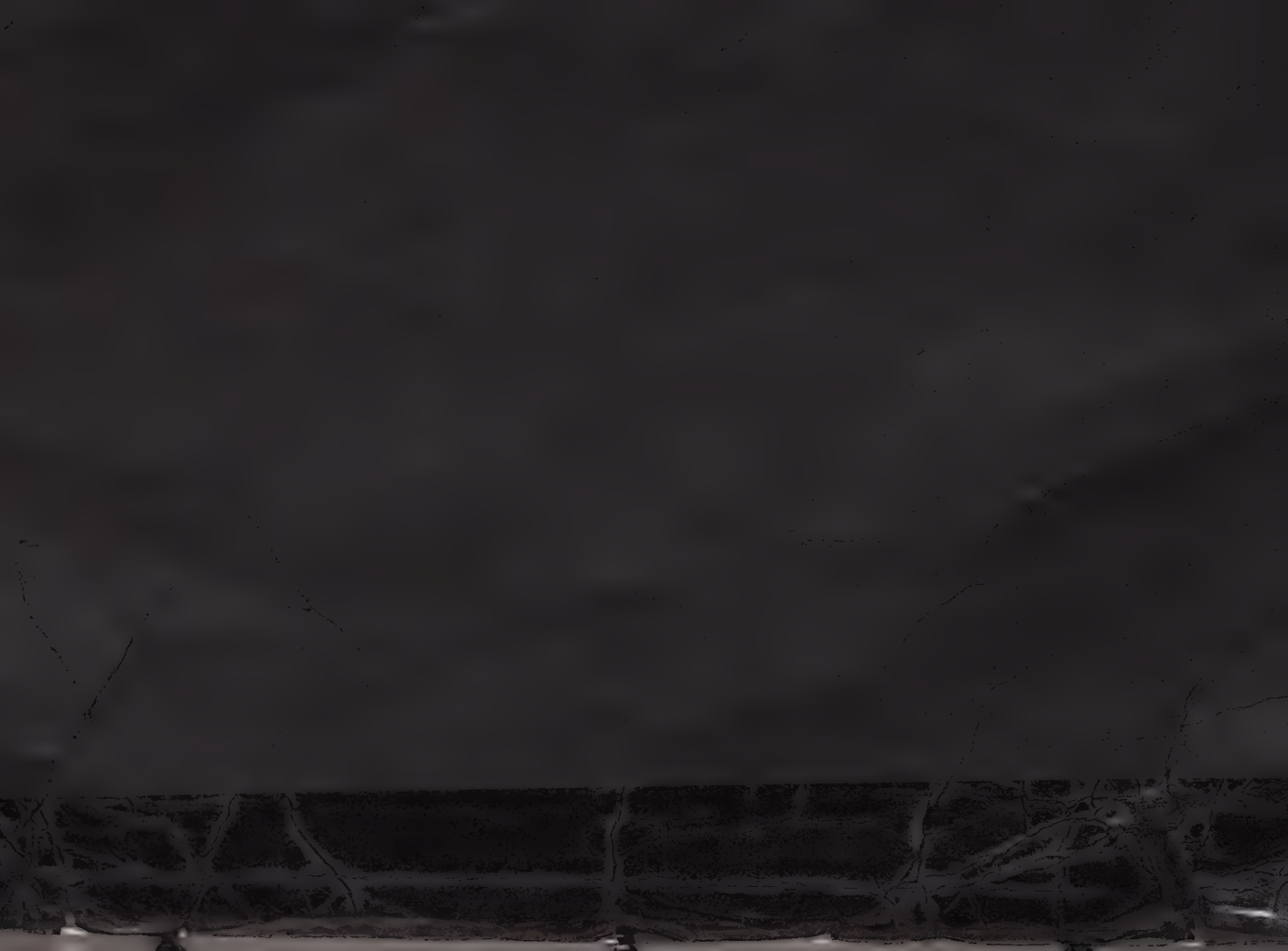



**Figure 6-18.**
**Key Up/Down**



## 6-46 Delay Key Up/Down

*Sample Edit 15*

In this example,

- key background is from source A, key foreground is from source AUX 1,
- effect duration is 30 frames, total key duration is 4 seconds, and
- tagged record entry time from previous edit is used.

Record a delayed key up/down over source A as follows:

1. Press CUT, A to select key background.
2. Mark or set in entry point for source A.
3. Mark or set in edit duration for source A, or leave edit open-ended.
4. Press KEY, **KEYS**, **DISS KEY UP & DOWN** to select key effect.
5. Press AUX 1 to select the key foreground, and clip key as required.
6. Enter effect duration using keypad and **EFFECT DURATION**, noting that key up and key down durations are equal.
7. Delay the key by trimming key foreground Record entry time.
8. Set total key duration by trimming key foreground Record Duration.

   Figure 6-19 (A) shows screen with key up/down ready to perform.
9. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM key up/down, or place edit in EDL without recording.

   Figure 6-19 (B) shows screen with recorded edit in the EDL. Figure 6-19 (C) shows this delayed key up/down on a time line.

Refer to paragraph 6-22, "Key Up/Down," for more detailed information on programming delayed key up/down effects.

ACE 25:

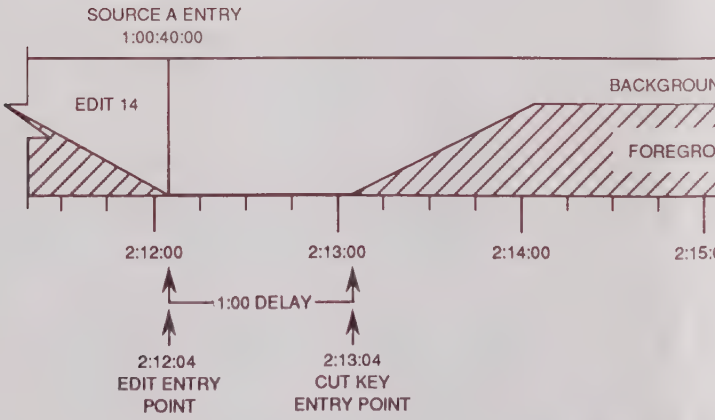
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 2;12;16 | Stop | V12 | 2,12,04 | 2_17_04 | 5,00 | | AC |
| A | 1 | L | 1;00;40;12 | Stop | V12 | 1;00;40;00 | 1,00,45,00 | 5,00 | | AC |
| B | 2 | L | 2;00;32;11 | Stop | V12 | 2;00;32;00 | | | | AC |
| C | 3 | | : : : : | | | : : : : | : : | | | |
| Aux1 | | | | | | | ,00 | 4_00 | 4,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 15 | 1 | V12 | Cut | | | 1;00;40;00 | 1;00;45;00 | 2,12,04 | 2_17_04 |
| 15 | Aux1 | V12 | KyUpDn | | 30 | ;00 | 4_00 | 2,13,04 | 2_17_04 |
| — EDL | | | | | | | | | |
| 13R | Aux1 | V12 | KyDn | | 30 | ;00 | 3_00 | 2_02_04 | 2,05,04 |
| 14R | 2 | V12 | Cut | | | 2;00;27;00 | 2;00;32;00 | 2,07,04 | 2_12_04 |
| 14R | Aux2 | V12 | KyUpDn | | 30 | ;00 | 5;00 | 2_07_04 | 2_12_04 |

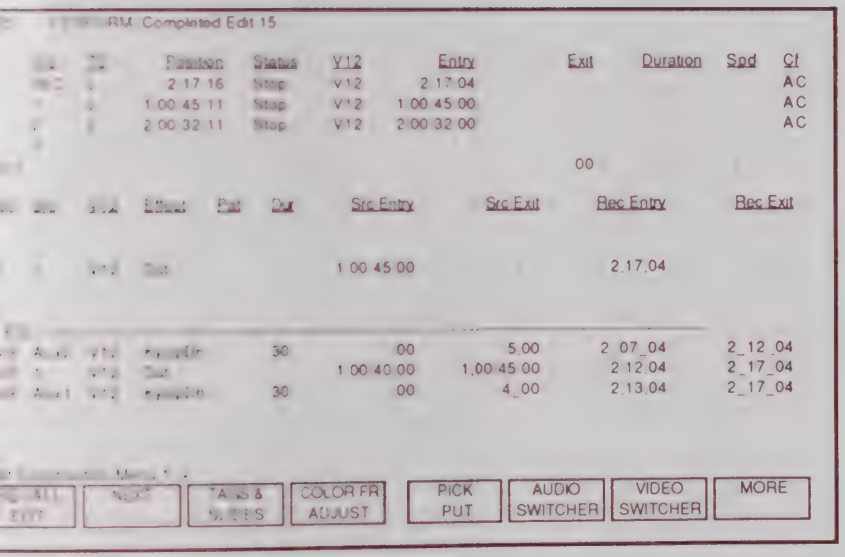
Choose KEY parameters: >

KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN

**A** **Ready to Edit**




**C** **Timelin**




**B** Completed

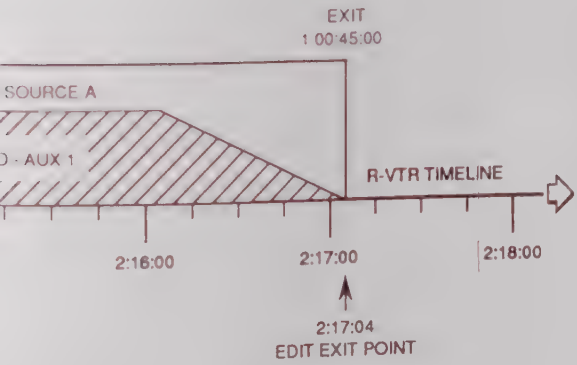



**Figure 6-19.**
**Delayed Key Up/Down**

## 6-47 Downstream Cut Key

*Sample Edit 16*

In this example,

- upstream effect is dissolve from source A to source B,
- upstream effect duration is 30 frames,
- downstream (DS) key foreground is from source AUX 1, and
- tagged record entry time from previous edit is used.

Record a DS cut key as follows:

1. Press CUT, A, DISS, B to set up the upstream effect.
2. Mark or set in an entry point for source B.
3. Mark or set in edit duration for source B, or leave edit open-ended.
4. Enter upstream effect duration using keypad and **EFFECT DURATION.**
5. Press KEY, **DOWNSTRM KEYS, DSK CUT KEY** to select key effect.
6. Press AUX 1 to select the DS key foreground, select key parameters, and clip key as required.

   Figure 6-20 (A) shows screen with DS key ready to perform.
7. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW,** or PERFORM the DS key, or place edit in EDL without recording.

   Figure 6-20 (B) shows screen with recorded edit in the EDL. Figure 6-20 (C) shows this DS key on a time line.

Refer to paragraph 6-24, "Downstream Cut Key," for more detailed information on programming DS cut key effects.

ACE 25: Knob: Key Clip Level

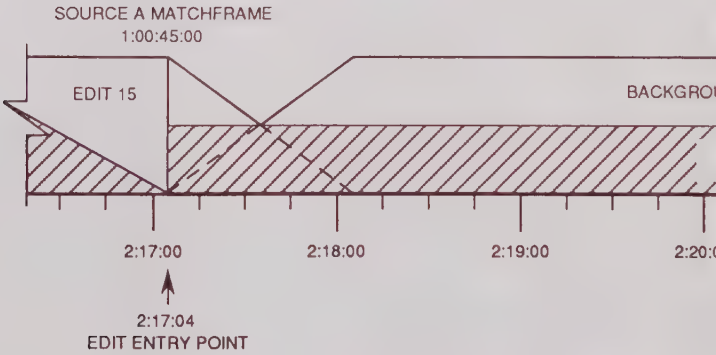
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 2;17;16 | Stop | V12 | 2;17;04 | 2_22_04 | 5,00 | | AC |
| A | 1 | L | 1;00;45;11 | Stop | V12 | 1;00;45;00 | 1_00_45_00 | ,00 | | AC |
| B | 2 | L | 2;00;32;11 | Stop | V12 | 2;00;32;00 | 2;00;37;00 | 5,00 | | AC |
| C | 3 | | : : : : | | | : : : : | : : : : | . . . . | | |
| Aux1 | | | | | | | ;00 | 5_00 | 5,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 16 | 1 | V12 | Cut | | | 1;00;45;00 | 1_00_45_00 | 2;17;04 | 2_17_04 |
| 16 | 2 | V12 | Dis | | 30 | 2;00;32;00 | 2;00;37;00 | 2_17_04 | 2_22_04 |
| 16 | Aux1 | V12 | DskCt | | | ;00 | 5;00 | 2_17_04 | 2_22_04 |
| — EDL | | | | | | | | | |
| 14R | Aux2 | V12 | KyUpDn | | 30 | ;00 | 5;00 | 2_07_04 | 2_12_04 |
| 15R | 1 | V12 | Cut | | | 1;00;40;00 | 1;00;45;00 | 2;12;04 | 2_17_04 |
| 15R | Aux1 | V12 | KyUpDn | | 30 | ;00 | 4_00 | 2;13;04 | 2_17_04 |

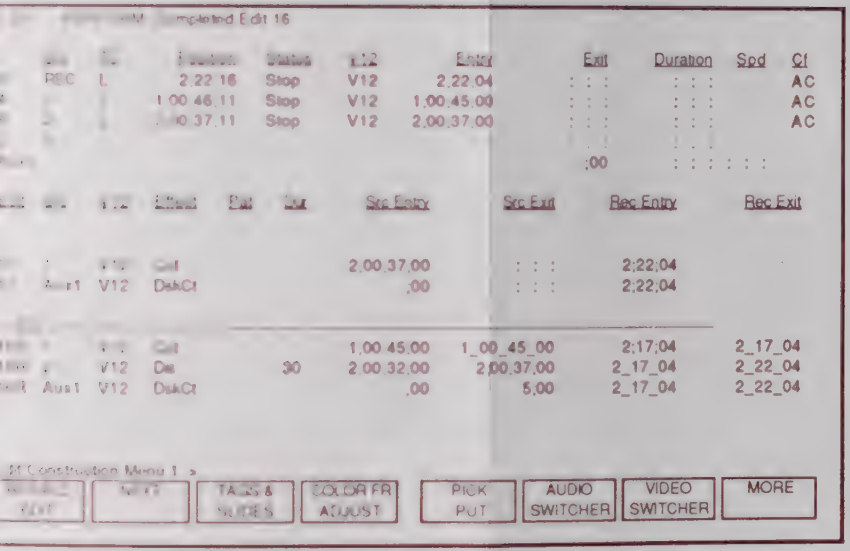
Choose KEY parameters: >

KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN

**A** **Ready to Edit**




**C** **Timelin**




B Completed

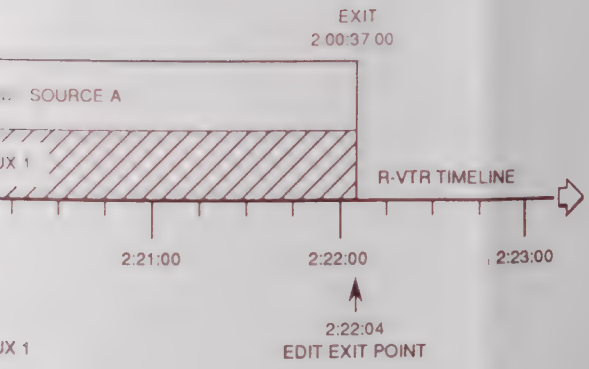



**Figure 6-20.**
**Downstream Cut Key**

## 6-48 Downstream Delayed Cut Key

*Sample Edit 17*

In this example,

- upstream effect is dissolve from source B to A, 30 frames duration,
- downstream (DS) key foreground is from source AUX 2, and
- tagged record entry time from previous edit is used.

Record a delayed DS cut key as follows:

1. Press CUT, B, DISS, A to set up the upstream effect.
2. Mark or set in an entry point for source A.
3. Mark or set in edit duration for source A, or leave edit open-ended.
4. Enter upstream effect duration using keypad and **EFFECT DURATION.**
5. Press KEY, **DOWNSTRM KEYS, DSK CUT KEY** to select key effect.
6. Press AUX 2 to select the DS key foreground, and clip key as required.
7. Delay the DS key by trimming key foreground Record entry time.

   Figure 6-21 (A) shows screen with delayed DS key ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM the delay DS key, or place edit in EDL without recording.

   Figure 6-21 (B) shows screen with recorded edit in the EDL. Figure 6-21 (C) shows this delayed DS key on a time line.

Refer to paragraph 6-24, "Downstream Cut Key," for more detailed information on programming delayed DS key effects.

ACE 25:

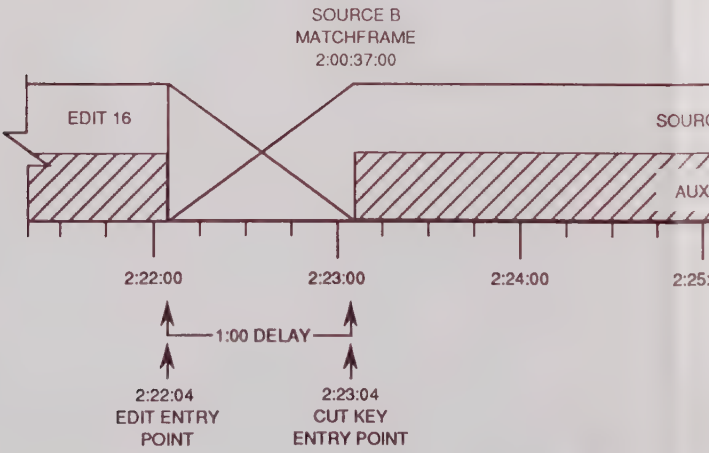
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 2;22;16 | Stop | V12 | 2;22;04 | 2_27_04 | 5,00 | | AC |
| A | 1 | L | 1;00;46;11 | Stop | V12 | 1;00;45;00 | 1,00,50,00 | 5,00 | | AC |
| B | 2 | L | 2;00;37;11 | Stop | V12 | 2,00;37;00 | 2_00_37_00 | ,00 | | AC |
| C | 3 | | : : : : | | | : : : : | : : : : | : : : | | |
| Aux2 | | | | | | | ,00 | 4_00 | 4,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 17 | 2 | V12 | Cut | | | 2;00;37;00 | 2_00_37_00 | 2,22,04 | 2_22_04 |
| 17 | 1 | V12 | Dis | | 30 | 1;00;45;00 | 1;00;50;00 | 2_22_04 | 2_27_04 |
| 17 | Aux2 | V12 | DskCt | | | ;00 | 4_00 | 2;23,04 | 2_27_04 |
| — EDL | | | | | | | | | |
| 16R | 1 | V12 | Cut | | | 1;00;45;00 | 1_00_45_00 | 2;17;04 | 2_17_04 |
| 16R | 2 | V12 | Dis | | 30 | 2;00;32;00 | 2;00;37;00 | 2_17_04 | 2_22_04 |
| 16R | Aux1 | V12 | DskCt | | | ;00 | 5;00 | 2_17_04 | 2_22_04 |

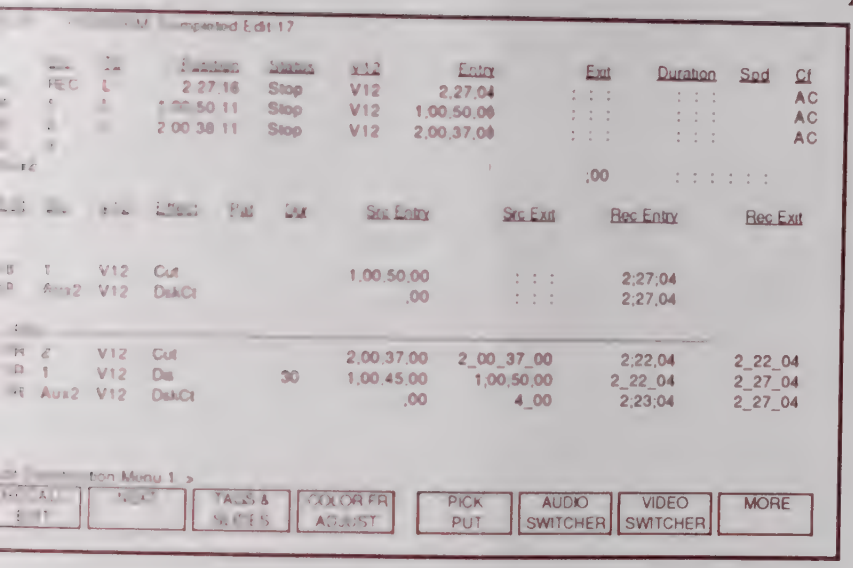
Choose new keyer or Delete/Modify current KEY effect: >

KEYS | DWNSTRM KEYS | DWNSTRM FADES | | SWITCHER PREVIEW | DELETE KEY | MODIFY KEY | RETURN

**A** Ready to Edit




**C** Timeli




B Completed

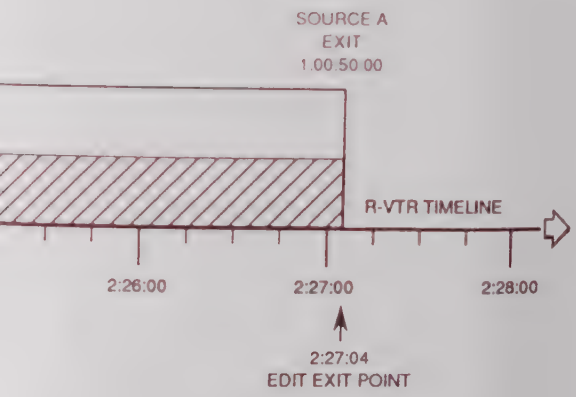



**Figure 6-21.**
**Downstream Delayed Cut Key**

## 6-49 Downstream Key Up (With Delay Upstream Dissolve)

*Sample Edit 18*

In this example,

- upstream effect is dissolve from source A to B, 30 frames duration,
- upstream effect delay is 1 second,
- downstream (DS) key effect duration is 60 frames, and
- tagged record entry time from previous edit is used.

Record a DS key up with a delayed upstream effect as follows:

1. Press CUT, A, DISS, B to set up the upstream effect.
2. Mark or set in delay on the "From" machine.
3. Mark or set in an entry point for source B, then mark or set in edit duration for source B, or leave edit open-ended.
4. Enter upstream effect duration using keypad and **EFFECT DURATION.**
5. Press KEY, **DOWNSTRM KEYS, DISS DSK UP** to select key effect.
6. Press AUX 1 to select DS key foreground, and clip key as required.
7. Enter DS key effect duration using keypad and **EFFECT DURATION.**

   Figure 6-22 (A) shows screen with DS key up ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM the DS key up, or place edit in EDL without recording.

   Figure 6-22 (B) shows screen with recorded edit in the EDL. Figure 6-22 (C) shows this DS key up on a time line.

Refer to paragraph 6-25, "Downstream Key Up," for more detailed information on programming DS key up effects.

ACE 25: Knob Key Clip Level

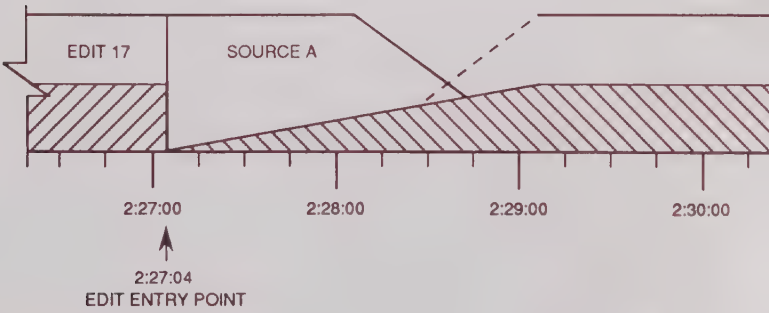
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 2;27;16 | Stop | V12 | 2;27;04 | 2_33_04 | 6,00 | | AC |
| A | 1 | L | 1;00;50;11 | Stop | V12 | 1;00;50;00 | 1;00;51;00 | 1,00 | | AC |
| B | 2 | L | 2;00;38;11 | Stop | V12 | 2;00;37;00 | 2;00;42;00 | 5,00 | | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux1 | | | | | | | ;00 | 6_00 | 6,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 18 | 1 | V12 | Cut | | | 1;00;50;00 | 1;00;51;00 | 2;27;04 | 2_28_04 |
| 18 | Aux1 | V12 | DskUp | | 60 | ;00 | 6_00 | 2;27;04 | 2_33_04 |
| 18 | 2 | V12 | Dis | | 30 | 2;00;37;00 | 2;00;42;00 | 2_28_04 | 2_33_04 |
| — EDL | | | | | | | | | |
| 17R | 2 | V12 | Cut | | | 2;00;37;00 | 2_00_37_00 | 2;22;04 | 2_22_04 |
| 17R | 1 | V12 | Dis | | 30 | 1;00;45;00 | 1;00;50;00 | 2_22_04 | 2_27_04 |
| 17R | Aux2 | V12 | DskCt | | | ;00 | 4_00 | 2;23;04 | 2_27_04 |

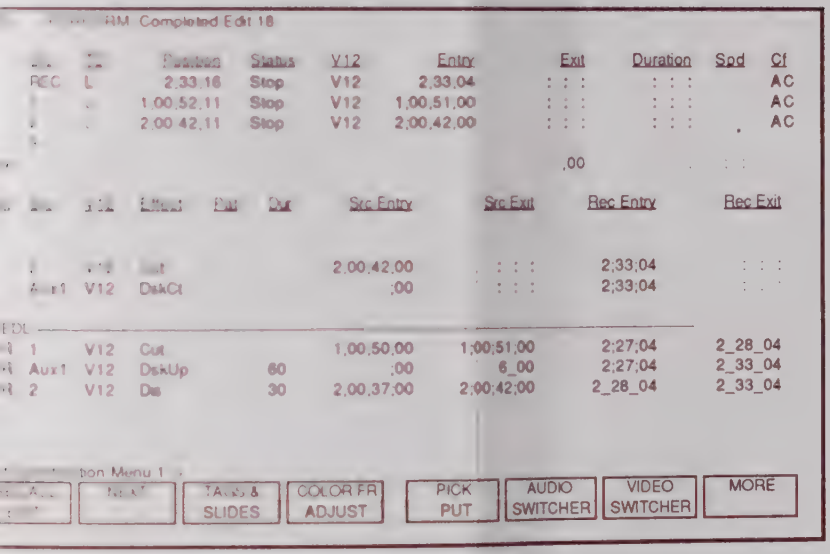
Choose KEY parameters: >

KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN

**A** Ready to Edit




**C** Timeline


RM Completed Edit 18
Position Status V12 Entry Exit Duration Spd Cf
REC L 2:33:16 Stop V12 2:33:04 : : : : : : AC
1:00:52:11 Stop V12 1:00:51:00 : : : : : : AC
2:00:42:11 Stop V12 2:00:42:00 : : : : : : AC
,00
Src Entry Src Exit Rec Entry Rec Exit
2:00:42:00 : : : : 2:33:04 : : : :
V12 DskCt ;00 : : : : 2:33:04 : : : :
EDL
1 V12 Cut 1:00:50:00 1:00:51:00 2:27:04 2_28_04
Aux1 V12 DskUp 60 ;00 6_00 2:27:04 2_33_04
2 V12 Dis 30 2:00:37:00 2:00:42:00 2_28_04 2_33_04
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE
SLIDES
COLOR FR ADJUST

B Completed

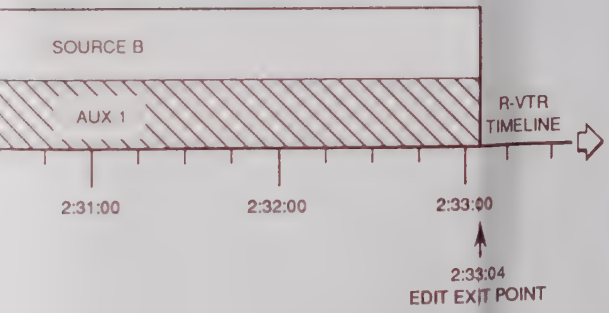
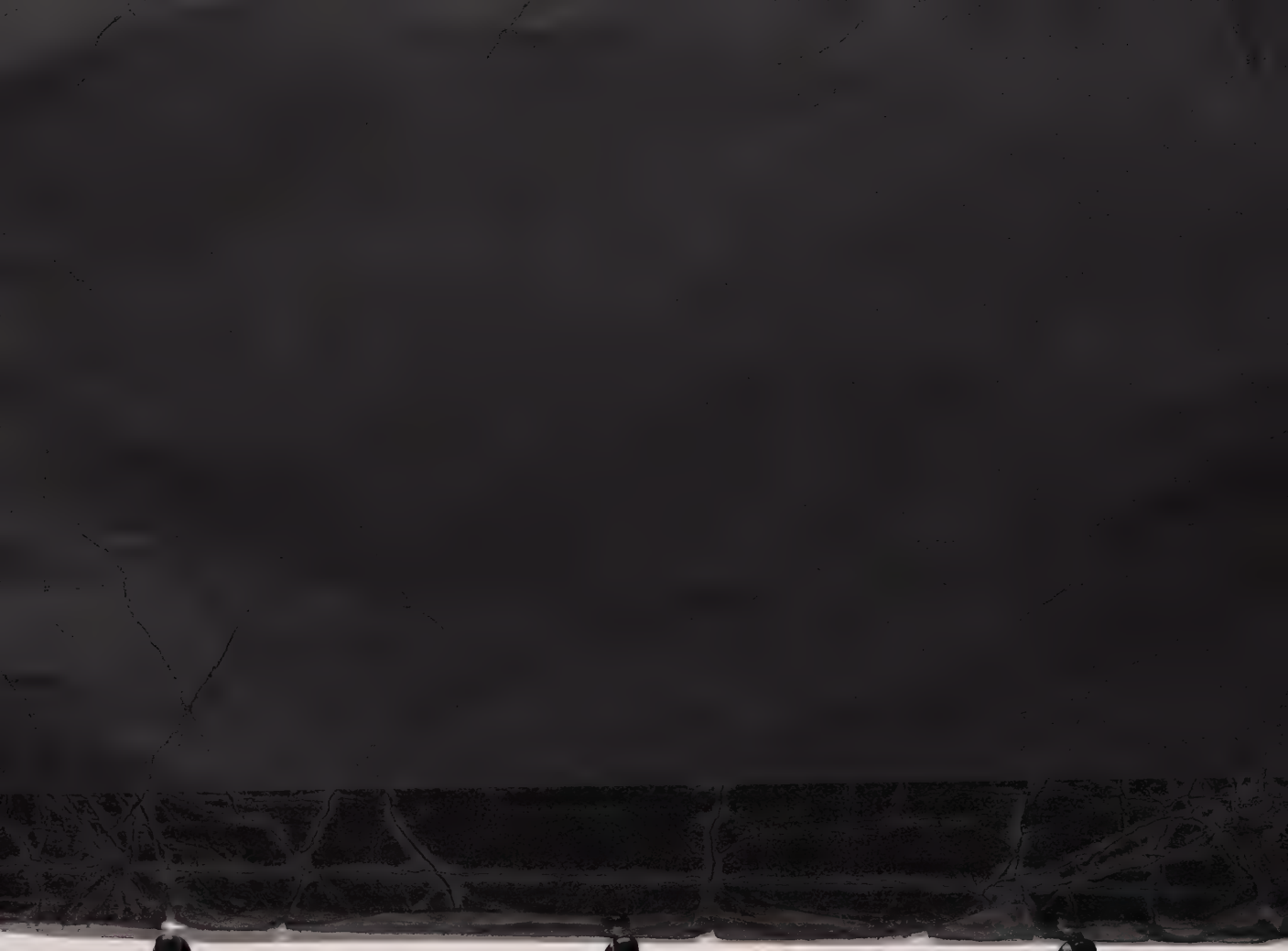



**Figure 6-22.**
**Downstream Key Up with Delay Upstream Dissolve**



## 6-50 Downstream Delayed Key Down

*Sample Edit 19*

In this example,

- upstream effect is wipe from source B to A, 30 frames duration,
- downstream (DS) key delay is 3 seconds, and
- tagged record entry time from previous edit is used.

Record a DS delayed key down as follows:

1. Press CUT, B, WIPE, A to set up the upstream effect.
2. Mark or set in an entry point for source A, then mark or set in edit duration for source A, or leave edit open-ended.
3. Select wipe parameters, then enter upstream effect duration using keypad and **EFFECT DURATION.**
4. Press KEY, **DOWNSTRM KEYS, DISS DSK DOWN** to select effect.
5. Press AUX 2 to select DS key foreground, and clip key as required.
6. Enter DS key effect duration using keypad and **EFFECT DURATION.**
7. Set total key down duration (delay) by trimming key foreground Record duration.

   Figure 6-23 (A) shows screen with DS key up ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW,** or PERFORM the DS key down, or place edit in EDL without recording.

   Figure 6-23 (B) shows screen with recorded edit in the EDL. Figure 6-23 (C) shows this DS key down on a time line.

Refer to paragraph 6-26, "Downstream Key Down," for more detailed information on programming DS key down effects.

ACE 25:

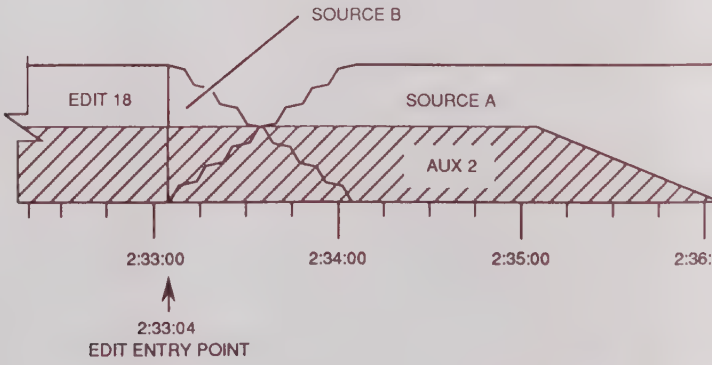
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 2;33;16 | Stop | V12 | 2;33;04 | 2_38_04 | 5,00 | | AC |
| A | 1 | L | 1;00;52;11 | Stop | V12 | 1;00;51;00 | 1;00;56;00 | 5,00 | | AC |
| B | 2 | L | 2;00;42;11 | Stop | V12 | 2;00;42;00 | 2_00_42_00 | ,00 | | AC |
| C | 3 | | : : : : | | | : : : : | : : : : | : : : | | |
| Aux2 | | | | | | | ;00 | 3_00 | 3,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 19 | 2 | V12 | Cut | | | 2;00;42;00 | 2_00_42_00 | 2;33;04 | 2;33;04 |
| 19 | 1 | V12 | Wipe | 4HN | 30 | 1;00;51;00 | 1;00;56;00 | 2_33_04 | 2_38_04 |
| 19 | Aux2 | V12 | DskDn | | 30 | ;00 | 3_00 | 2;33;04 | 2;36;04 |
| — EDL | | | | | | | | | |
| 18R | 1 | V12 | Cut | | | 1;00;50;00 | 1;00;51;00 | 2;27;04 | 2_28_04 |
| 18R | Aux1 | V12 | DskUp | | 60 | ;00 | 6_00 | 2;27;04 | 2_33_04 |
| 18R | 2 | V12 | Dis | | 30 | 2;00;37;00 | 2;00;42;00 | 2_28_04 | 2_33_04 |

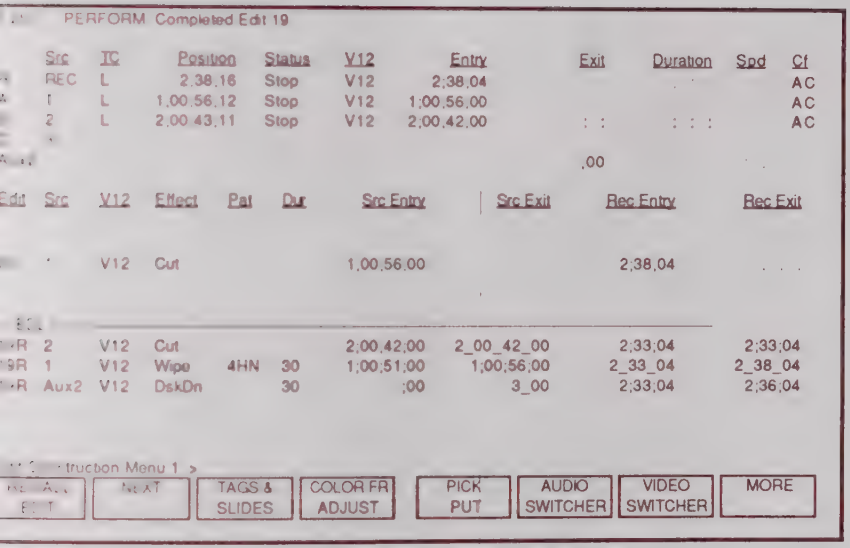
Choose KEY parameters: >

KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN

**A** Ready to Edit




**C** Timelin


PERFORM Completed Edit 19
Src TC Position Status V12 Entry Exit Duration Spd Cf
REC L 2;38;16 Stop V12 2;38;04 AC
1 L 1;00;56;12 Stop V12 1;00;56;00 AC
2 L 2;00;43;11 Stop V12 2;00;42;00 AC
Edit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
V12 Cut 1;00;56;00 2;38;04
2 V12 Cut 2;00;42;00 2_00_42_00 2;33;04 2;33;04
1 V12 Wipe 4HN 30 1;00;51;00 1;00;56;00 2_33_04 2_38_04
Aux2 V12 DskDn 30 ;00 3_00 2;33;04 2;36;04
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

B **Completed**

**Figure 6-23.**
**Downstream Delayed Key Down**

## 6-51 Downstream Key Up/Down

*Sample Edit 20*

In this example,

- upstream effect is wipe from source A to B, 30 frames duration,
- downstream (DS) key effect duration is 30 frames, and
- tagged record entry time from previous edit is used.

Record a DS key up/down as follows:

1. Press CUT, A, WIPE, B to set up the upstream effect.
2. Mark or set in an entry point for source B, then mark or set in edit duration for source B, or leave edit open-ended.
3. Enter upstream effect duration using keypad and **EFFECT DURATION**.
4. Press KEY, **DOWNSTRM KEYS**, **DISS DSK UP & DOWN** to select key effect.
5. Press AUX 1 to select DS key foreground, and clip key as required.
6. Enter DS key effect duration using keypad and **EFFECT DURATION**, noting that DS key up and DS key down durations are equal.
7. Set total DS key duration by trimming key foreground Record Duration.

   Figure 6-24 (A) shows screen with DS key up/down ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM DS key up/down, or place edit in EDL without recording.

   Figure 6-24 (B) shows screen with recorded edit in the EDL. Figure 6-24 (C) shows this DS key up/down on a time line.

Refer to paragraph 6-27, "Downstream Key Up/Down," for more detailed information on programming DS key up/down effects.

ACE 25: Knob: Key Clip Level

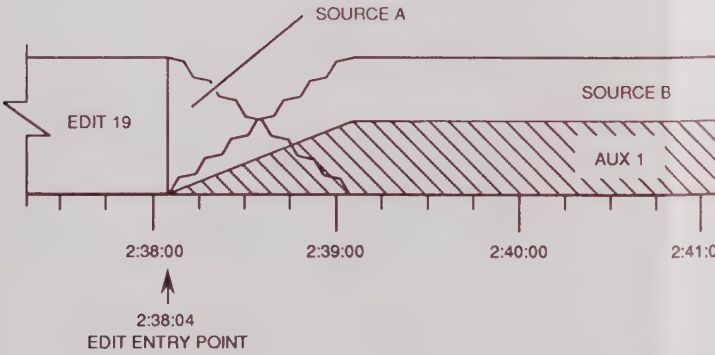
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 2;38;16 | Stop | V12 | 2;38;04 | 2_43_04 | 5,00 | | AC |
| A | 1 | L | 1;00;56;12 | Stop | V12 | 1;00;56;00 | 1_00_56_00 | ,00 | | AC |
| B | 2 | L | 2;00;43;11 | Stop | V12 | 2;00;42;00 | 2;00;47;00 | 5,00 | | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux1 | | | | | | | ;00 | 5_00 | 5,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 20 | 1 | V12 | Cut | | | 1;00;56;00 | 1_00_56_00 | 2;38;04 | 2_38_04 |
| 20 | 2 | V12 | Wipe | 4HN | 30 | 2;00;42;00 | 2;00;47;00 | 2_38_04 | 2_43_04 |
| 20 | Aux1 | V12 | DskUpD | 4HN | 30 | ;00 | 5_00 | 2_38_04 | 2_43_04 |
| — EDL — | | | | | | | | | |
| 19R | 2 | V12 | Cut | | | 2;00;42;00 | 2_00_42_00 | 2;33;04 | 2;33;04 |
| 19R | 1 | V12 | Wipe | 4HN | 30 | 1;00;51;00 | 1;00;56;00 | 2_33_04 | 2_38_04 |
| 19R | Aux2 | V12 | DskDn | | 30 | ;00 | 3_00 | 2;33;04 | 2;36;04 |

Choose KEY parameters: >

KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION | NORMAL/ INVERT | LUM/ CHROMA | INT/ EXTERNAL | RETURN

**A** **Ready to Edit**




**C** **Timeline**

PERFORM Completed Edit 20

| | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|
| REC | L | 2;43;16 | Stop | V12 | 2;43;04 | : : : | : : : | | AC |
| 1 | L | 1;00;57;11 | Stop | | 1;00;56;00 | : : : | : : : | | AC |
| 2 | L | 2;00;47;11 | Stop | V12 | 2;00;47;00 | : : : | : : : | | AC |
| 3 | | | | | | : : : | | | |
| AUX1 | | | | | | ;00 | | | |

| Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|
| 2 | V12 | Cut | | | 2;00;47;00 | : : : | 2;43;04 | : : : |

EDL

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | V12 | Cut | | | 1;00;56;00 | 1_00_56_00 | 2;38;04 | 2_38_04 |
| 2 | V12 | Wipe | 4HN | 30 | 2;00;42;00 | 2;00;47;00 | 2_38_04 | 2_43_04 |
| Aux1 | V12 | DskUpD | 4HN | 30 | ;00 | 5_00 | 2_38_04 | 2_43_04 |

Edit Construction Menu 1 >

NEXT EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

B Completed

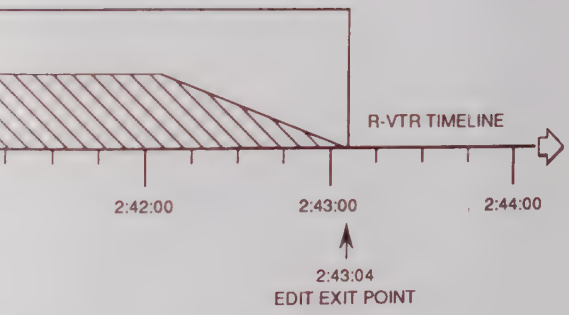



**Figure 6-24.**
**Downstream Key Up/Down**

## 6-52 Downstream Fade Up to Key Over A

*Sample Edit 21*

In this example,

- upstream effect is cut key over source A,
- downstream (DS) fade up duration is 60 frames, and
- tagged record entry time from previous edit is used.

Record a DS fade up to a key over source A as follows:

1. Press CUT, A to select the key background.
2. Mark or set in an entry point for source A.
3. Mark or set in edit duration for source A, or leave edit open-ended.
4. Press KEY, **KEYS**, **CUT KEY** to select key effect.
5. Press AUX 1 to select key foreground, and clip key as required.
6. Press KEY, **DOWNSTRM FADES**, **FADE UP** to select DS key effect, noting that DS fade up automatically fades up from source black.
7. Enter DS fade duration using keypad and **EFFECT DURATION**.

   Figure 6-25 (A) shows screen with DS fade up ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM DS fade up, or place edit in EDL without recording.

   Figure 6-25 (B) shows screen with recorded edit in the EDL. Figure 6-25 (C) shows this DS fade up on a time line.

ACE 25: Knob: Key Clip Level

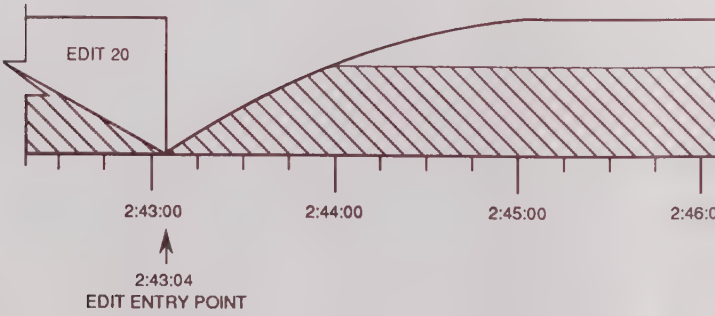
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 2;43;16 | Stop | V12 | 2;43;04 | 2_48_04 | 5_00 | | AC |
| A | 1 | L | 1;00;57;11 | Stop | V12 | 1;00;56;00 | 1;01;01;02 | 5,00 | | AC |
| B | 2 | L | 2;00;47;11 | Stop | | 2;00;47;00 | : : : | : : : | | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux1 | | | | | | | ;00 | 5_00 | 5,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 21 | 1 | V12 | Cut | | | 1;00;56;00 | 1;01;01;02 | 2;43;04 | 2_48_04 |
| 21 | Aux1 | V12 | CutKy | | | ;00 | 5_00 | 2_43_04 | 2_48_04 |
| 21 | Blk | V12 | FadUp | | 60 | ;00 | 5_00 | 2_43_04 | 2;48;04 |
| — EDL | | | | | | | | | |
| 20R | 1 | V12 | Cut | | | 1;00;56;00 | 1_00_56_00 | 2;38;04 | 2_38_04 |
| 20R | 2 | V12 | Wipe | 4HN | 30 | 2;00;42;00 | 2;00;47;00 | 2_38_04 | 2_43_04 |
| 20R | Aux1 | V12 | DskUpD | 4HN | 30 | ;00 | 5_00 | 2_38_04 | 2_43_04 |

Select from Downstream Fader: >

FADE UP | FADE DOWN | | EFFECT DURATION | FADER START | FADER END | KEY PARAMS | RETURN

**A** Ready to Edit




**C** Timelin

PERFORM Completed Edit 21

| Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|
| REC | L | 2,50,06 | Stop | V12 | 2;48;04 | : : : | : : : | | AC |
| 1 | L | 1,01,03,03 | Stop | V12 | 1;01;01;02 | : : : | : : : | | AC |
| 2 | L | 2,00,54,27 | Stop | | 2;00;47;00 | : : : | : : : | | AC |
| 3 | | | | | | | | | |
| 1 | | | | | | ;00 | | | |

| Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|
| 1 | V12 | Cut | | | 1;01;01;02 | : : : | 2;48;04 | : : : |
| Aux1 | V12 | CutKy | | | ;00 | : : : | 2;48;04 | : : : |
| 1 | V12 | Cut | | | 1;00;56;00 | 1;01;01;02 | 2;43;04 | 2_48_04 |
| Aux1 | V12 | CutKy | | | ;00 | 5_00 | 2_43_04 | 2_48_04 |
| [illegible] | V12 | FadUp | | 60 | ;00 | 5_00 | 2_43_04 | 2;48;04 |

[illegible]truction Menu 1 >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**B** Completed

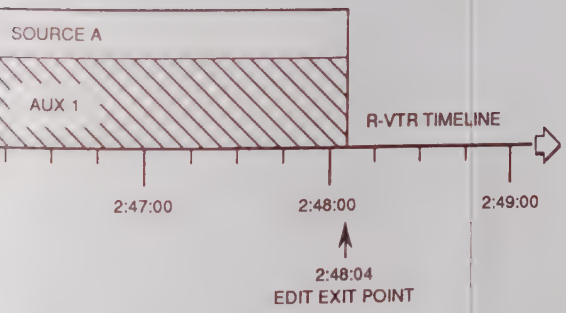



**Figure 6-25.**
**Downstream Fade Up to Key Over A**

## 6-53 Downstream Fade Down from Key Over A

*Sample Edit 22*

In this example,

- upstream effect is cut key over source A, extended from previous edit,
- downstream (DS) fade duration is 60 frames, delay is 3 seconds, and
- tagged record and source entry times from previous edit are used.

Record a DS fade down from a key over source A as follows:

1. Press CUT, A to select the key background.
2. Mark or set in edit duration for source A, or leave edit open-ended.
3. Press KEY, **KEYS**, **CUT KEY** to select key effect.
4. Press AUX 1 to select key foreground, and clip key as required.
5. Press KEY, **DOWNSTRM FADES**, **FADE DOWN** to select DS key effect, noting that DS fade down automatically fades to source black.
6. Enter DS fade duration using keypad and **EFFECT DURATION**.
7. Delay start of fade down by trimming fade Record entry point.

   Figure 6-26 (A) shows screen with DS fade down ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM DS fade down, or place edit in EDL without recording.

   Figure 6-26 (B) shows screen with recorded edit in the EDL. Figure 6-26 (C) shows this DS fade down on a time line.

ACE 25:

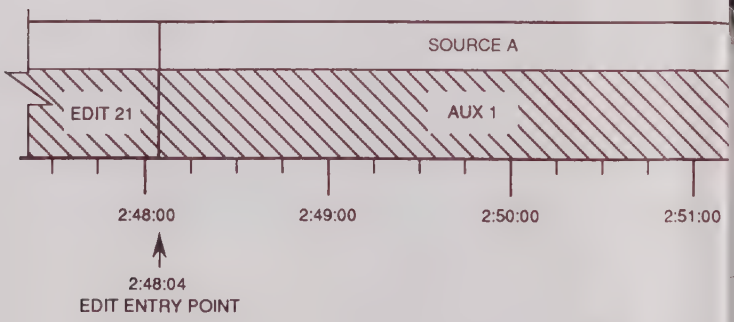
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 2;50;06 | Stop | V12 | 2;48;04 | 2;53;04 | 5;00 | | AC |
| A | 1 | L | 1;01;03;03 | Stop | V12 | 1;01;01;02 | 1_01_06_02 | 5;00 | | AC |
| B | 2 | L | 2;00;54;27 | Stop | | 2;00;47;00 | : : : | : : : | | AC |
| C | 3 | | : : : : | | | : : : | : : : | : : : | | |
| Aux1 | | | | | | | ;00 | 5_00 | 5;00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 22 | 1 | V12 | Cut | | | 1;01;01;02 | 1_01_06_02 | 2;48;04 | 2;53;04 |
| 22 | Aux1 | V12 | CutKy | | | ;00 | 5_00 | 2;48;04 | 2;53;04 |
| 22 | Blk | V12 | FadDn | | 60 | ;00 | 2_00 | 2;51;04 | 2;53;04 |
| — EDL | | | | | | | | | |
| 21R | 1 | V12 | Cut | | | 1;00;56;00 | 1;01;01;02 | 2;43;04 | 2_48_04 |
| 21R | Aux1 | V12 | CutKy | | | ;00 | 5_00 | 2_43_04 | 2_48_04 |
| 21R | Blk | V12 | FadUp | | 60 | ;00 | 5_00 | 2_43_04 | 2;48;04 |

Select from Downstream Fader: >

FADE UP | FADE DOWN | | EFFECT DURATION | FADER START | FADER END | KEY PARAMS | RETURN

**A** Ready to Edit




**C** Timeline

PERFORM Completed Edit 22

| | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|
| REC | 2;55;06 | Stop | V12 | 2;53;04 | : : : | : : : | | AC |
| 1 | 1;01;08;03 | Stop | V12 | 1;01;06;02 | : : : | : : : | | AC |
| L | 2;01;14;20 | Stop | | 2;00;47;00 | : : : | : : : | | AC |
| | | | | | : : : | : : : | | |
| | | | | | ;00 | : : : | : : : | |

| | | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|
| 1 | V12 | Cut | | | 1;01;06;02 | : : : | 2;53;04 | : : : |
| Aux1 | V12 | CutKy | | | ;00 | : : : | 2;53;04 | : : : |

EDL

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | V12 | Cut | | | 1;01;01;02 | 1_01_06_02 | 2;48;04 | 2;53;04 |
| Aux1 | V12 | CutKy | | | ;00 | 5_00 | 2;48;04 | 2;53;04 |
| Blk | V12 | FadDn | | 60 | ;00 | 2_00 | 2;51;04 | 2;53;04 |

onstruction Menu 1. >

ALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**B** Completed

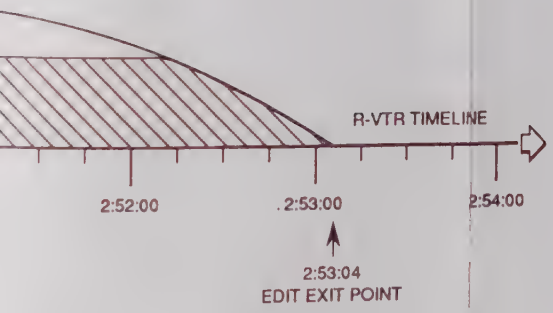



**Figure 6-26.**
**Downstream Fade Down from Key Over A**

## 6-54 Wipe Key Aux2 Over B

*Sample Edit 23*

In this example,

- background is source B,
- wipe key foreground is source AUX 2,
- wipe key effect duration is 60 frames, and
- tagged record entry time from previous edit is used.

Record a wipe key over source B as follows:

1. Press CUT, B to select the background source.
2. Mark or set in entry point on source B.
3. Mark or set in edit duration for source B, or leave edit open-ended.
4. Press KEY, **KEYS**, **WIPE KEY** to select key effect.
5. Select wipe parameters, and enter wipe key effect duration using keypad and **EFFECT DURATION**.
6. Press KEY, AUX 2 to select key foreground, and clip key as required.

   Figure 6-27 (A) shows screen with wipe key ready to perform.
7. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM the wipe key, or place edit in EDL without recording.

   Figure 6-27 (B) shows screen with recorded edit in the EDL. Figure 6-27 (C) shows this wipe key on a time line.

ACE 25:

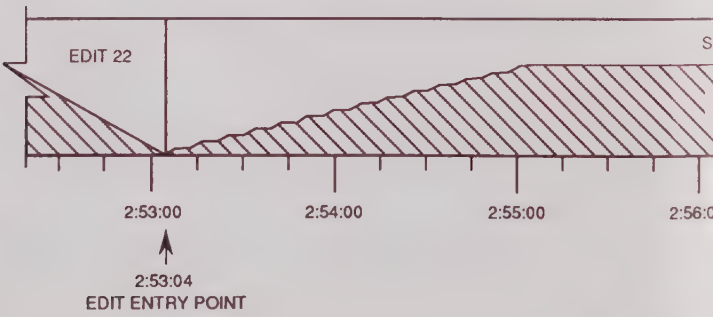
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 2;55;06 | Stop | V12 | 2;53;04 | 2_58_04 | 5,00 | | AC |
| A | 1 | L | 1;01;08;03 | Stop | | 1;01;06;02 | : : : | : : : | | AC |
| B | 2 | L | 2;01;14;20 | Stop | V12 | 2;00;47;00 | 2;00;52;00 | 5,00 | | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux2 | | | | | | | ;00 | 5_00 | 5,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 23 | 2 | V12 | Cut | | | 2;00;47;00 | 2;00;52;00 | 2;53;04 | 2_58_04 |
| 23 | Aux2 | V12 | WpKy | 8HN | 60 | ;00 | 5_00 | 2_53_04 | 2_58_04 |
| — EDL | | | | | | | | | |
| 22R | 1 | V12 | Cut | | | 1;01;01;02 | 1_01_06_02 | 2;48;04 | 2;53;04 |
| 22R | Aux1 | V12 | CutKy | | | ;00 | 5_00 | 2;48;04 | 2;53;04 |
| 22R | Blk | V12 | FadDn | | 60 | ;00 | 2_00 | 2;51;04 | 2;53;04 |

Choose WIPE parameters: >

| H/S/O/o EDGE | NORMAL/ REVERSE | WIPE PATTERN | EFFECT DURATION | SWITCHER PREVIEW | BORDER WIDTH | KEY PARAMS | RETURN |
|---|---|---|---|---|---|---|---|

**A** Ready to Edit




**C** Timelin

26 PERFORM Completed Edit 23
Src TC Position Status V12 Entry Exit Duration Spd Cf
REC L 3;00 08 Stop V12 2;58;04 AC
1 L 1;01;08;03 Stop 1;01;06;02 AC
2 L 2;00;54;01 Stop V12 2;00;52;00 AC
3
ux2
;00
Edit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
4 2 V12 Cut 2;00;52;00 2;58;04
EDL
2R Blk V12 FadDn 60 ;00 2_00 2;51;04 2;53;04
3R 2 V12 Cut 2;00;47;00 2;00;52;00 2;53;04 2_58_04
3R Aux2 V12 WpKy 8HN 60 ;00 5_00 2_53_04 2_58_04
dit Construction Menu 1: >
RECALL EDIT
NEXT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

**B** **Completed**

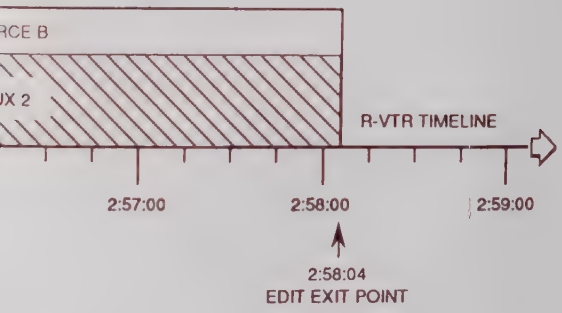



**Figure 6-27.**
**Wipe Key Aux 2 Over B**

## 6-55 Delay Wipe Key

*Sample Edit 24*

In this example,

- background is source B, wipe key foreground is source AUX 2,
- wipe key effect duration is 30 frames,
- wipe key delay is 2 seconds, and
- tagged record entry time from previous edit is used.

Record a delayed wipe key over source B as follows:

1. Press CUT, B to select background source.
2. Mark or set in entry point on source B.
3. Mark or set in edit duration for source B, or leave edit open-ended.
4. Press KEY, **KEYS**, **WIPE KEY** to select key effect.
5. Select wipe parameters, and enter wipe key effect duration using keypad and **EFFECT DURATION**.
6. Press KEY, AUX 2 to select key foreground, and clip key as required.
7. Delay the wipe key by trimming key foreground Record entry time.

   Figure 6-28 (A) shows screen with delay wipe key ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM delay wipe key, or place edit in EDL without recording.

   Figure 6-28 (B) shows screen with recorded edit in the EDL. Figure 6-28 (C) shows this delay wipe key on a time line.

ACE 25:

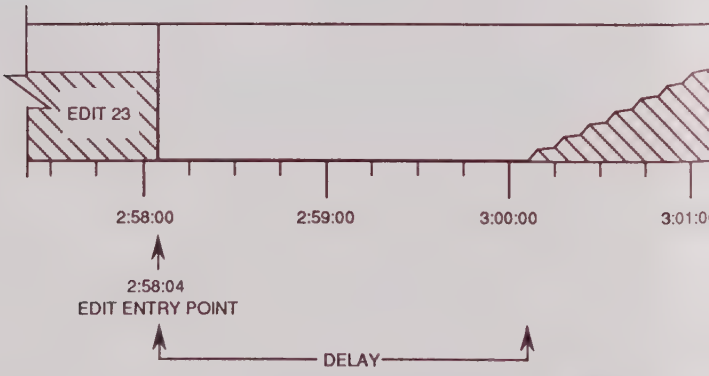
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 3;00:08 | Stop | V12 | 2;58;04 | 3_03_06 | 5,00 | | AC |
| A | 1 | L | 1;01;08;03 | Stop | | 1;01;06;02 | : : : | : : : | | AC |
| B | 2 | L | 2;00;54;01 | Stop | V12 | 2;00;52;00 | 2;00;57;00 | 5,00 | | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux1 | | | | | | | ;00 | 3_00 | 3,00 | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 24 | 2 | V12 | Cut | | | 2;00;52;00 | 2;00;57;00 | 2;58;04 | 3_03_06 |
| 24 | Aux1 | V12 | WpKy | 4SN | 60 | ;00 | 3_00 | 3;00;06 | 3_03_06 |
| — EDL — | | | | | | | | | |
| 22R | Blk | V12 | FadDn | | 60 | ;00 | 2_00 | 2;51;04 | 2;53;04 |
| 23R | 2 | V12 | Cut | | | 2;00;47;00 | 2;00;52;00 | 2;53;04 | 2_58_04 |
| 23R | Aux2 | V12 | WpKy | 8HN | 60 | ;00 | 5_00 | 2_53_04 | 2_58_04 |

Choose WIPE parameters: >

| H/S/O/o EDGE | NORMAL/ REVERSE | WIPE PATTERN | EFFECT DURATION | SWITCHER PREVIEW | BORDER WIDTH | KEY PARAMS | RETURN |
|---|---|---|---|---|---|---|---|

**A** Ready to Edit




**C** Timeli

E 25 PERFORM Completed Edit 24
Src IC Position Status V12 Entry Exit Duration Spd Cf
R REC L 3;10 08 Stop V12 3;03;06 : : : : : : AC
A 1 L 1;01;08;14 Stop 1;01;06;02 : : : : : : AC
B 2 L 2;01;00;17 Stop V12 2;00;57;00 : : : : : : AC
C 3 : : : : : : : : : : : :
Aux1 ;00 : : : : : : :
Edit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
25 2 V12 Cut 2;00;57;00 : : : 3;03;06 : : :
EDL
23R Aux2 V12 WpKy 8HN 60 ;00 5_00 2_53_04 2_58_04
24R 2 V12 Cut 2;00;52;00 2;00;57;00 2;58;04 3_03_06
24R Aux1 V12 WpKy 4SN 60 ;00 3_00 3;00;06 3_03_06
Edit Construction Menu 1: >
RECALL EDIT
NEXT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

**B** Completed

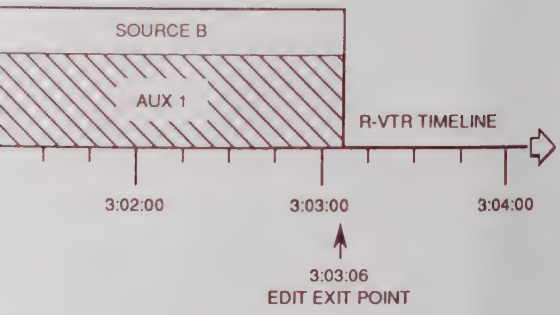
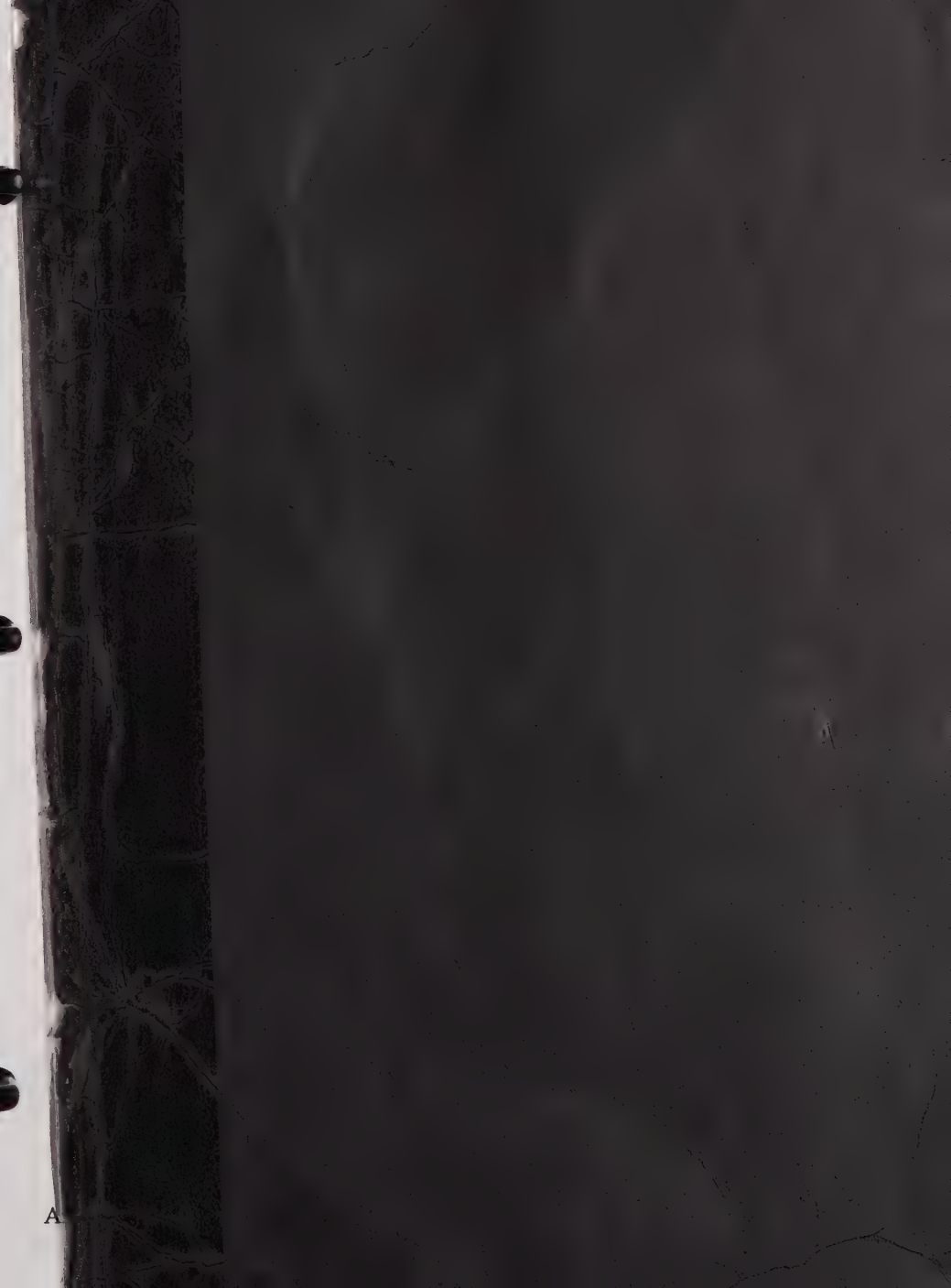



**Figure 6-28.**
**Delay Wipe Key**



## 6-56 Slow Motion Cut

*Sample Edit 25*

In this example,

- source VTR must be capable of slow motion operations,
- slow motion speed used is 50%, and
- tagged record entry time from previous edit is used.

Record a slow motion cut as follows:

1. Press CUT, B to select slow motion source VTR.
2. Mark or set in entry point on source B.
3. Mark or set in edit duration for source B, or leave edit open-ended.
4. Set in slow motion speed using keypad and **SLO MO SPEED**.

   Figure 6-29 (A) shows screen with slow motion cut ready to perform.
5. Trim edit points as required, PREVIEW, or PERFORM slow motion cut, or place edit in EDL without recording.

   Figure 6-29 (B) shows screen with recorded edit in the EDL. Figure 6-29 (C) shows this slow motion cut on a time line.

Refer to paragraph 4-41, "Slow Motion Editing," for more detailed information on programming slow motion edits.

ACE 25:

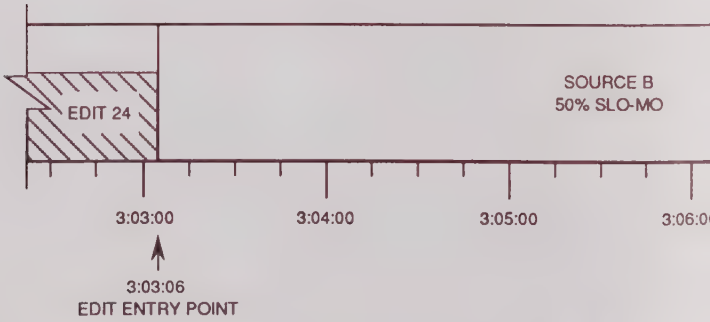
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 3;10:08 | Stop | V12 | 3;03;06 | 3;08;06 | 5;00 | | AC |
| A | 1 | L | 1;01;08;14 | Stop | | 1;01;06;02 | : : : : | : : : : | | AC |
| B | 2 | L | 2;01;00;17 | Stop | V12 | 2;00;57;00 | 2_00_59_15 | 2.15 | 50 | AC |
| C | 3 | | : : : : | | | : : : : | : : : : | : : : : | | |
| Aux1 | | | | | | | ;00 | : : : : : | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 25 | 2 | V12 | Cut | | | 2;00;57;00s | 2_00_59_15 | 3;03;06 | 3;08;06 |
| — EDL | | | | | | | | | |
| 23R | Aux2 | V12 | WpKy | 8HN | 60 | ;00 | 5_00 | 2_53_04 | 2_58_04 |
| 24R | 2 | V12 | Cut | | | 2;00;52;00 | 2;00;57;00 | 2;58;04 | 3_03_06 |
| 24R | Aux1 | V12 | WpKy | 4SN | 60 | ;00 | 3_00 | 3;00;06 | 3_03_06 |

Edit Construction Menu 1: >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**A** Ready to Edit




**C** Timelin

25 PERFORM Completed Edit 25

| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| | REC | L | 3,10 08 | Stop | V12 | 3;08,06 | | : : | | AC |
| | 1 | L | 1,01,08,14 | Stop | | 1;01,06,02 | | | | AC |
| | 2 | L | 2,01,00,19 | Stop | V12 | 2;00;59,15 | | | 50 | AC |
| | 3 | | | | | | | | | |
| ox1 | | | | | | | ,00 | | | |

| dit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 2 | V12 | Cut | | | 2;00;59,15s | | 3;08,06 | : : : |

EDL -

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 4R | 2 | V12 | Cut | | | 2;00;52;00 | 2;00;57;00 | 2,58,04 | 3_03_06 |
| 4R | Aux1 | V12 | WpKy | 4SN | 60 | ;00 | 3_00 | 3,00,06 | 3_03_06 |
| 5R | 2 | V12 | Cut | | | 2,00;57,00s | 2_00_59_15 | 3,03,06 | 3;08,06 |

dit Construction Menu 1: >

| RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE |
|---|---|---|---|---|---|---|---|

B Completed

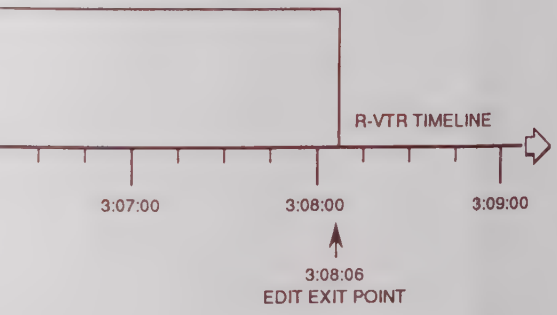



**Figure 6-29.**
**Slow Motion Cut**

## 6-57 Dissolve from Slow Motion to Full

*Sample Edit 26*

In this example,

- source VTR must be capable of slow motion operations,
- slow motion speed used is 50%,
- effect duration used is 60 frames, and
- tagged record and source entry times from previous edit are used.

Record a dissolve from slow motion to full speed as follows:

1. Press CUT, B, DISS, A to set up the dissolve.
2. Enter dissolve duration using keypad and **EFFECT DURATION**.
3. Mark or set in entry point on source A.
4. Mark or set in edit duration for source A, or leave edit open-ended.
5. Set in new slow motion speed on B using keypad and **SLO MO SPEED**, or use tagged slow motion speed from previous edit.

   Figure 6-30 (A) shows screen with dissolve ready to perform.
6. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM dissolve, or place edit in EDL without recording.

   Figure 6-30 (B) shows screen with recorded edit in the EDL. Figure 6-30 (C) shows this slow motion dissolve on a time line.

Refer to paragraph 4-41, "Slow Motion Editing," for more detailed information on programming slow motion edits.

ACE 25:

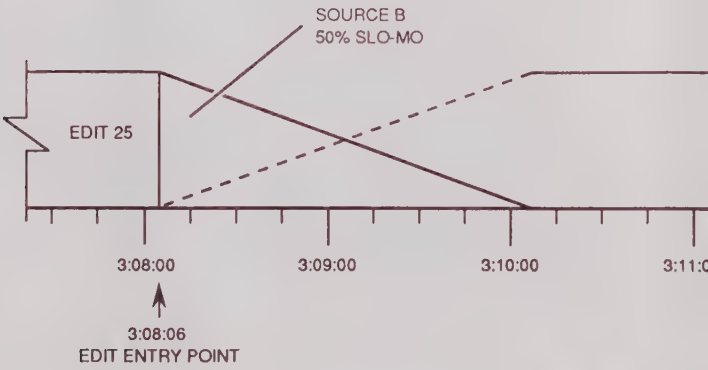
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 3;10:08 | Stop | V12 | 3;08;06 | 3;13;06 | 5,00 | | AC |
| A | 1 | L | 1;01;08;14 | Stop | V12 | 1;01;06;02 | 1_01_11_02 | 5,00 | | AC |
| B | 2 | L | 2;01;00;19 | Stop | V12 | 2;00;59;15 | 2_00_59_15 | : : : | 50 | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux1 | | | | | | | ;00 | : : : : : : | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 26 | 2 | V12 | Cut | | | 2;00;59;15s | 2_00_59_15 | 3;08;06 | 3_08_06 |
| 26 | 1 | V12 | Dis | | 60 | 1;01;06;02 | 1_01_11_02 | 3_08_06 | 3;13;06 |
| — EDL | | | | | | | | | |
| 24R | 2 | V12 | Cut | | | 2;00;52;00 | 2;00;57;00 | 2;58;04 | 3_03_06 |
| 24R | Aux1 | V12 | WpKy | 4SN | 60 | ;00 | 3_00 | 3;00;06 | 3_03_06 |
| 25R | 2 | V12 | Cut | | | 2;00;57;00s | 2_00_59_15 | 3;03;06 | 3;08;06 |

Choose DISSOLVE parameters: >

[ ] [ ] [ ] [EFFECT DURATION] [SWITCHER PREVIEW] [FADER START] [FADER END] [RETURN]

**A** **Ready to Edit**




**C** **Timelin**

PERFORM Completed Edit 26

| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| | REC | L | 3,15:08 | Stop | V12 | 3;13;06 | : : : | : : : | | AC |
| A | 1 | L | 1,01,13,04 | Stop | V12 | 1;01;11;02 | : : : | : : : | | AC |
| B | 2 | L | 2;01;01;19 | Stop | | 2;00;59;15 | : : : | : : : | 50 | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux1 | | | | | | | ;00 | : : : : : : | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| | | V12 | Cut | | | 1;01;11;02 | : : : | 3;13;06 | : : : |
| EDL | | | | | | | | | |
| 25R | 2 | V12 | Cut | | | 2;00;57;00s | 2_00_59_15 | 3;03;06 | 3;08;06 |
| 26R | 2 | V12 | Cut | | | 2;00;59;15s | 2_00_59_15 | 3;08;06 | 3_08_06 |
| 26R | 1 | V12 | Dis | | 60 | 1;01;06;02 | 1_01_11_02 | 3_08_06 | 3;13;06 |

Edit Construction Menu 1 >

RE A... EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

B Completed

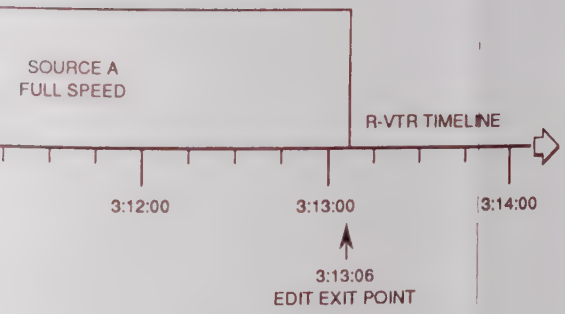



**Figure 6-30.**
**Dissolve from Slow Motion to Full**

## 6-58 Dissolve from Full Speed to Still Frame

*Sample Edit 27*

In this example,

- source VTR must be capable of slow motion operations,
- slow motion speed used is 0% (still frame),
- effect duration used is 60 frames, and
- tagged record and source entry times from previous edit are used.

Record a dissolve from full speed to still frame as follows:

1. Press CUT, A, DISS, B to set up the dissolve.
2. Enter dissolve duration using keypad and **EFFECT DURATION.**
3. Press MARK ENTRY to select desired still on source B.
4. Mark or set in edit duration for source B, or leave edit open-ended.
5. Set in 0 slow motion speed on B using keypad and **SLO MO SPEED.**

   Figure 6-31 (A) shows screen with dissolve ready to perform.
6. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW,** or PERFORM dissolve, or place edit in EDL without recording.

   Figure 6-31 (B) shows screen with recorded edit in the EDL. Figure 6-31 (C) shows this slow motion dissolve on a time line.

Refer to paragraph 4-41, "Slow Motion Editing," for more detailed information on programming slow motion edits.

ACE 25:

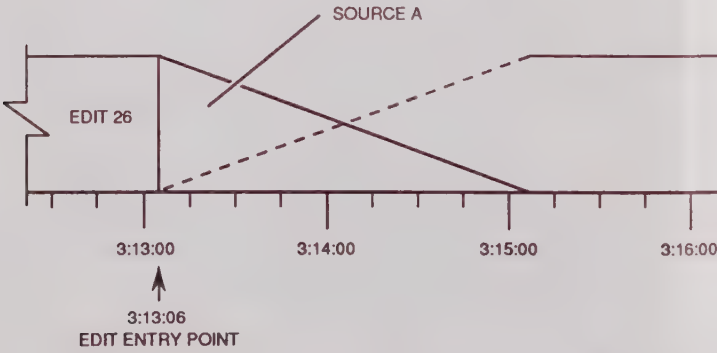
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 3;15:08 | Stop | V12 | 3;13;06 | 3;18;06 | 5,00 | | AC |
| A | 1 | L | 1;01;13;04 | Stop | V12 | 1;01;11;02 | 1_01_11_02 | ,00 | | AC |
| B | 2 | L | 2;01;14;22 | Stop | V12 | 2;01;14;22 | 2_01_14_22 | ,00 | 0 | AC |
| C | 3 | | : : : : | | | : : : : | : : : : | : : : : | | |
| Aux1 | | | | | | | ;00 | : : : : : : : | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 27 | 1 | V12 | Cut | | | 1;01;11;02 | 1_01_11_02 | 3;13;06 | 3_13_06 |
| 27 | 2 | V12 | Dis | | 60 | 2;01;14;22s | 2_01_14_22 | 3_13_06 | 3;18;06 |
| — EDL — | | | | | | | | | |
| 25R | 2 | V12 | Cut | | | 2;00;57;00s | 2_00_59_15 | 3;03;06 | 3;08;06 |
| 26R | 2 | V12 | Cut | | | 2;00;59;15s | 2_00_59_15 | 3;08;06 | 3_08_06 |
| 26R | 1 | V12 | Dis | | 60 | 1;01;06;02 | 1_01_11_02 | 3_08_06 | 3;13;06 |

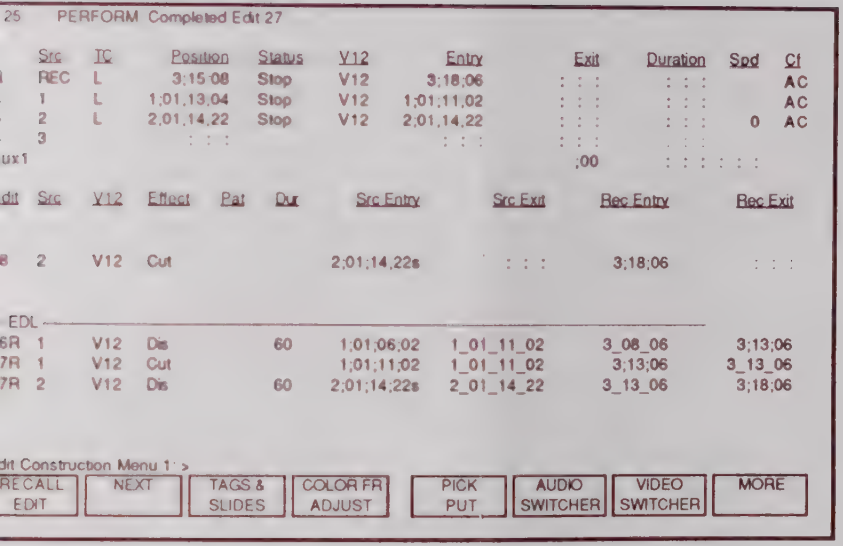
Edit Construction Menu 2: >

| EDIT NUMBER | DELETE LINE | FILL | DISPLAY CHANGE | TRANSPRT | REEL NUMBER | SLO MO SPEED | MORE |
|---|---|---|---|---|---|---|---|

**A** Ready to Edit




**C** Timeli


25 PERFORM Completed Edit 27
Src TC Position Status V12 Entry Exit Duration Spd Cf
REC L 3:15:08 Stop V12 3;18;06 AC
1 L 1;01,13;04 Stop V12 1;01;11;02 AC
2 L 2;01,14,22 Stop V12 2;01,14,22 0 AC
3
ux1 ;00
dit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
8 2 V12 Cut 2;01;14,22s 3;18;06
EDL
6R 1 V12 Dis 60 1;01;06;02 1_01_11_02 3_08_06 3;13;06
7R 1 V12 Cut 1;01;11;02 1_01_11_02 3;13;06 3_13_06
7R 2 V12 Dis 60 2;01;14;22s 2_01_14_22 3_13_06 3;18;06
dit Construction Menu 1
RE CALL EDIT
NEXT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

B Completed

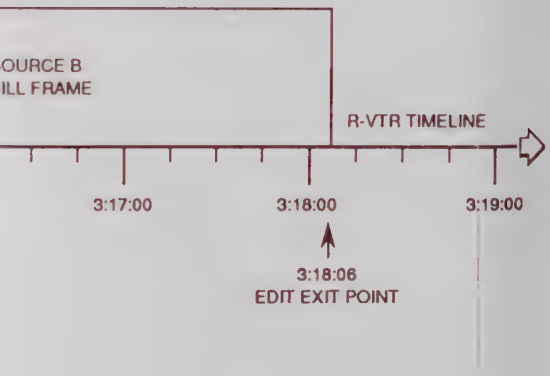



**Figure 6-31.**
**Dissolve from Full Speed to Still Frame**

## 6-59 Split Edit—Audio Leads Video

*Sample Edit 28*

In this example,

- split procedure creates a separate time line for A1 and A2 in ECL,
- audio leads video by 1 second, and
- tagged record entry time from previous edit is used.

Record a split edit with audio leading video as follows:

1. Press CUT, B to select split source.
2. Mark or set in entry point on B for start of split audio material.
3. Mark or set in edit duration for source B, or leave edit open-ended.
4. Press SPLIT to select split edit mode.
5. Press A1, A2 to select split channels.
6. Mark or set in Record entry time on split audio line to select audio record start time earlier than video start.

   Figure 6-32 (A) shows screen with split edit ready to perform.
7. Trim split edit points as required, PREVIEW, or PERFORM the split, or place edit in EDL without recording.

   Figure 6-32 (B) shows screen with recorded edit in the EDL. Figure 6-32 (C) shows this split edit on a time line.

Refer to paragraph 4-39, "Audio Leads Video Split," for more detailed information on programming split edits.

ACE 25:

| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 3;15:08 | Stop | V12 | 3;18;06 | : : : | : : : | | AC |
| A | 1 | L | 1;01;13;04 | Stop | | 1;01;11;02 | : : : | : : : | | AC |
| B | 2 | L | 2;01;14;22 | Stop | V12 | 2;01;14;22 | : : : | : : : | | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux1 | | | | | | | ;00 | : : : : : : | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 28 | 2 | _12 | Cut | | | 2_01_13_22 | : : : | 3;17;06 | : : : |
| 28 | 2 | V__ | Cut | | | 2;01;14;22 | : : : | 3;18;06 | : : : |

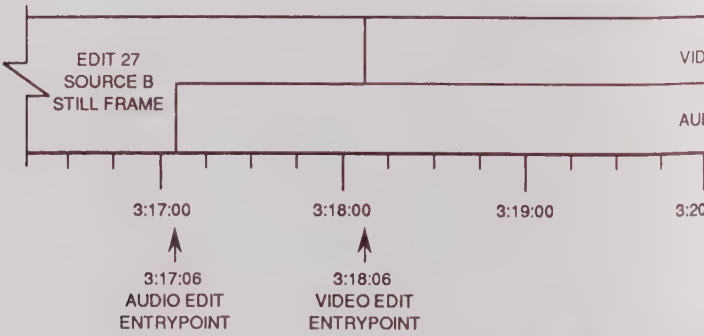
— EDL —

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 26R | 1 | V12 | Dis | | 60 | 1;01;06;02 | 1_01_11_02 | 3_08_06 | 3;13;06 |
| 27R | 1 | V12 | Cut | | | 1;01;11;02 | 1_01_11_02 | 3;13;06 | 3_13_06 |
| 27R | 2 | V12 | Dis | | 60 | 2;01;14;22s | 2_01_14_22 | 3_13_06 | 3;18;06 |

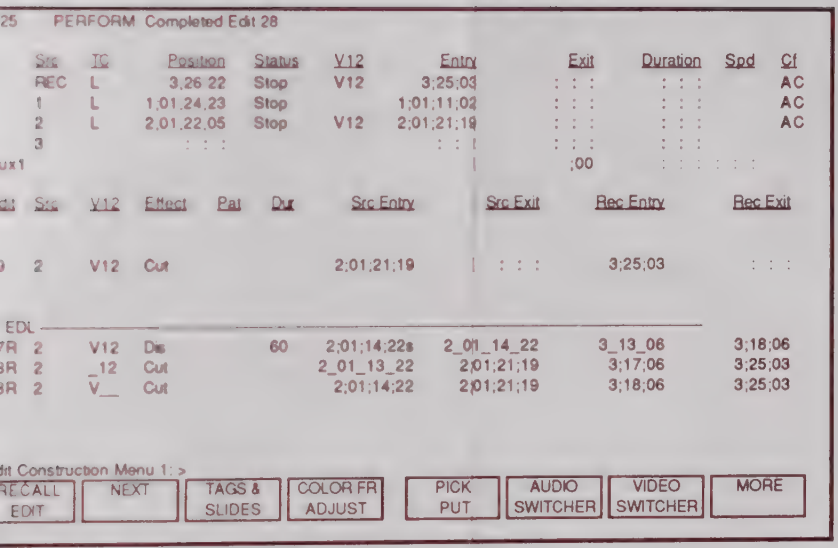
Edit Construction Menu 1: >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**A** Ready to Edit




**C** Timelin


25 PERFORM Completed Edit 28
Src TC Position Status V12 Entry Exit Duration Spd Cf
REC L 3;26 22 Stop V12 3;25;03 : : : : : : AC
1 L 1;01;24;23 Stop 1;01;11;02 : : : : : : AC
2 L 2;01;22;05 Stop V12 2;01;21;19 : : : : : : AC
3 : : : : : : : : : : : :
ux1 ;00
Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
2 V12 Cut 2;01;21;19 : : : : 3;25;03 : : : :
EDL
2 V12 Dis 60 2;01;14;22s 2_01_14_22 3_13_06 3;18;06
2 _12 Cut 2_01_13_22 2;01;21;19 3;17;06 3;25;03
2 V__ Cut 2;01;14;22 2;01;21;19 3;18;06 3;25;03
it Construction Menu 1: >
RECALL EDIT
NEXT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

B Completed

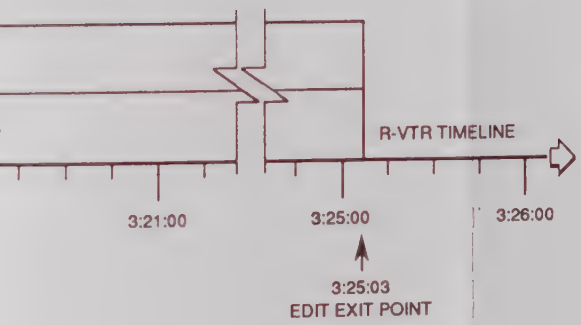



**Figure 6-32.**
**Split Edit—Audio Leads Video**

## 6-60 Split Edit—Video Leads Audio

*Sample Edit 29*

In this example,

- split procedure creates a separate time line for video in ECL,
- video leads audio by 1 second, and
- tagged record entry time from previous edit is used.

Record a split edit with video leading audio as follows:

1. Press CUT, A to select split source.
2. Mark or set in entry point on A for start of split video material.
3. Mark or set in edit duration for source A, or leave edit open-ended.
4. Press SPLIT to select split edit mode.
5. Press V to select split channel.
6. Mark or set in Record entry time on split video line to select video record start time earlier than audio start.

   Figure 6-33 (A) shows screen with split edit ready to perform.
7. Trim split edit points as required, PREVIEW, or PERFORM the split, or place edit in EDL without recording.

   Figure 6-33 (B) shows screen with recorded edit in the EDL. Figure 6-33 (C) shows this split edit on a time line.

Refer to paragraph 4-38, "Video Leads Audio Split," for more detailed information on programming split edits.

ACE 25:

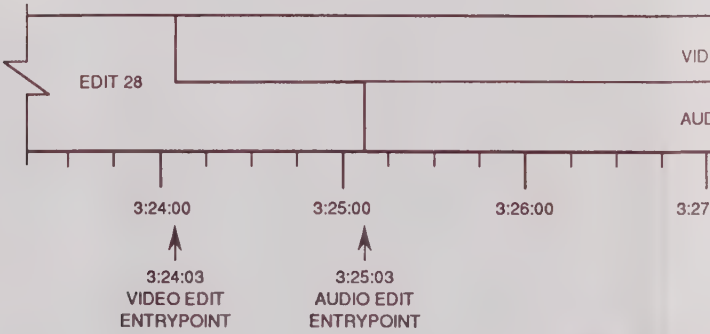
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 3;26:22 | Stop | V12 | 3;25;03 | : : : | : : : | | AC |
| A | 1 | L | 1;01;24;23 | Stop | V12 | 1;01;11;02 | : : : | : : : | | AC |
| B | 2 | L | 2;01;22;05 | Stop | | 2;01;21;19 | : : : | : : : | | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux1 | | | | | | | ;00 | : : : | : : | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 29 | 1 | V__ | Cut | | | 1_01_10_02 | : : : | 3;24;03 | : : : |
| 29 | 1 | _12 | Cut | | | 1;01;11;02 | : : : | 3;25;03 | : : : |
| — EDL | | | | | | | | | |
| 27R | 2 | V12 | Dis | | 60 | 2;01;14;22s | 2_01_14_22 | 3_13_06 | 3;18;06 |
| 28R | 2 | _12 | Cut | | | 2_01_13_22 | 2;01;21;19 | 3;17;06 | 3;25;03 |
| 28R | 2 | V__ | Cut | | | 2;01;14;22 | 2;01;21;19 | 3;18;06 | 3;25;03 |

Edit Construction Menu 1: >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**A** **Ready to Edit**




**C** **Timelin**

PERFORM Completed Edit 29

| | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|
| | L | 3;31 02 | Stop | V12 | 3;29;13 | | | | AC |
| 1 | L | 1;01;15;28 | Stop | V12 | 1;01;15;12 | | | | AC |
| 2 | L | 2;01;22;05 | Stop | | 2;01;21;19 | | | | AC |
| 3 | | | | | | | | | |

,00

| | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | V12 | Cut | | | 1;01;15;12 | | 3;29;13 | |
| | 2 | V__ | Cut | | | 2;01;14;22 | 2;01;21;19 | 3;18;06 | 3;25;03 |
| | 1 | V__ | Cut | | | 1_01_10_02 | 1;01;15;12 | 3;24;03 | 3;29;13 |
| | 1 | 12 | Cut | | | 1;01;11;02 | 1;01;15;12 | 3;25;03 | 3;29;13 |

dit Construction Menu 1: >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

B Completed

**Figure 6-33.**
**Split Edit—Video Leads Audio**

## 6-61 Split Edit—Split Entrance and Split Exit

*Sample Edit 30*

In this example,

- split procedure creates a separate time line for audio in ECL,
- audio leads video by 1 second,
- video channel has 3 second edit duration, and
- tagged record entry time from previous edit is used.

Record a split edit with audio leading video on the entrance, and video leading audio on the exit as follows:

1. Press CUT, B to select split source.
2. Mark or set in entry point on B for start of split audio material.
3. Mark or set in edit duration for source B, or leave edit open-ended.
4. Press SPLIT, A1, A2, to select split edit mode and split channels.
5. Mark or set in Record entry time on split audio line to select audio record start time earlier than video start.
6. Mark or set in Record exit time on split video line to split video exit earlier than audio exit.

   Figure 6-34 (A) shows screen with split edit ready to perform.
7. Trim split edit points as required, PREVIEW, or PERFORM the split, or place edit in EDL without recording.

   Figure 6-34 (B) shows screen with recorded edit in the EDL. Figure 6-34 (C) shows this split edit on a time line.

Refer to paragraph 4-37, "Split Edits," for more detailed information on programming split edits.

ACE 25:

| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 3;31:02 | Stop | V12 | 3;29;13 | 3_32_13 | 3,00 | | AC |
| A | 1 | L | 1;01;15;28 | Stop | | 1;01;15;12 | : : : | : : : | | AC |
| B | 2 | L | 2;01;22;05 | Stop | V12 | 2;01;21;19 | 2;01;24;19 | 3,00 | | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux1 | | | | | | | ;00 | : : : : : : | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 30 | 2 | _12 | Cut | | | 2;01;20;19 | : : : | 3_28_13 | : : : |
| 30 | 2 | V__ | Cut | | | 2;01;21;19 | 2;01;24;19 | 3;29;13 | 3_32_13 |

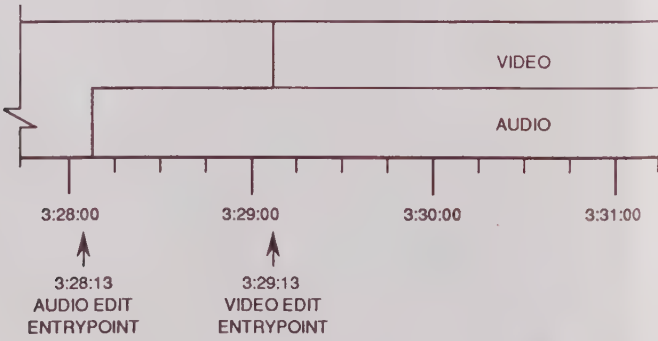
— EDL

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 28R | 2 | V__ | Cut | | | 2;01;14;22 | 2;01;21;19 | 3;18;06 | 3;25;03 |
| 29R | 1 | V__ | Cut | | | 1_01_10_02 | 1;01;15;12 | 3;24;03 | 3;29;13 |
| 29R | 1 | _12 | Cut | | | 1;01;11;02 | 1;01;15;12 | 3;25;03 | 3;29;13 |

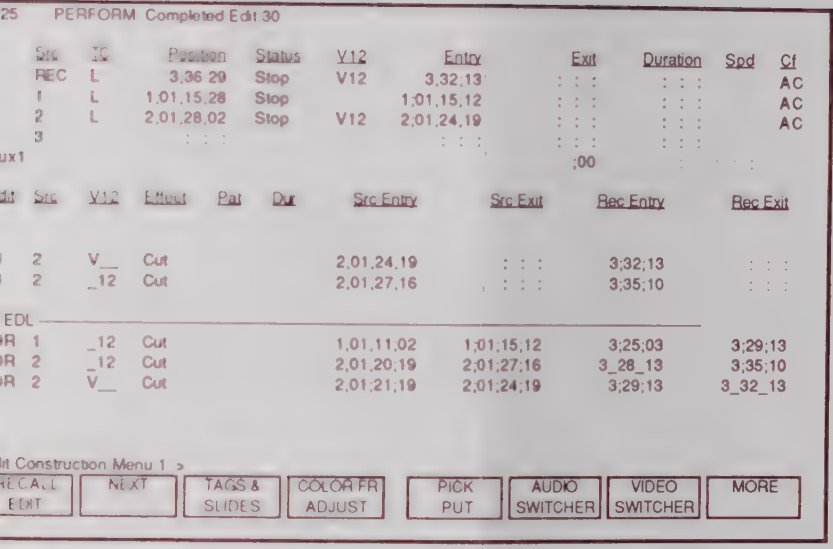
Edit Construction Menu 1: >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**A** Ready to Edit




**C** Timelin


25 PERFORM Completed Edit 30
Src TC Position Status V12 Entry Exit Duration Spd Cf
REC L 3,36 29 Stop V12 3,32;13 AC
1 L 1,01,15,28 Stop 1;01,15;12 AC
2 L 2,01,28,02 Stop V12 2;01,24,19 AC
3
ux1
;00
dit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
2 V__ Cut 2,01,24,19 3;32;13
2 _12 Cut 2,01,27,16 3;35;10
EDL
R 1 _12 Cut 1,01,11,02 1;01;15;12 3;25;03 3;29;13
R 2 _12 Cut 2,01,20;19 2;01;27;16 3_28_13 3;35;10
R 2 V__ Cut 2,01;21;19 2;01;24;19 3;29;13 3_32_13
lit Construction Menu 1 >
RECALL EDIT
NEXT
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

B Completed

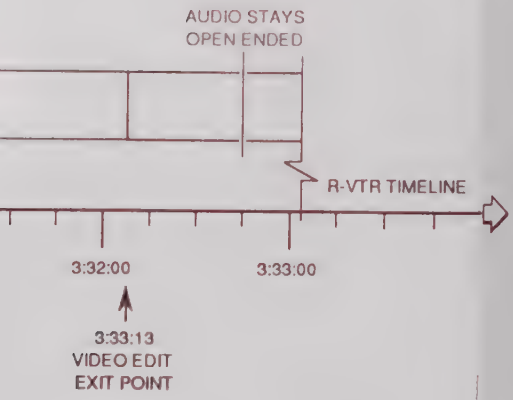



**Figure 6-34.**
**Split Edit—Split Entrance and Split Exit**

## 6-62 Dissolve Video—Split Cut (Hold) Audio

*Sample Edit 31*

In this example,

- split procedure creates a separate time line for audio in ECL,
- split video dissolve duration is 60 frames, and
- tagged record entry time from previous edit is used.

Record a split edit with video dissolving and audio cutting as follows:

1. Press CUT, B, DISS, A to set up the dissolve effect.
2. Mark or set in entry point on A.
3. Mark or set in edit duration for source A, or leave edit open-ended.
4. Enter dissolve duration using keypad and **EFFECT DURATION**.
5. Press SPLIT to select split edit mode.
6. Press A1, A2, to select split channels.
7. Press CUT, B to change split audio dissolve to split audio cut.

   Figure 6-35 (A) shows screen with split edit ready to perform.
8. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM the split, or place edit in EDL without recording.

   Figure 6-35 (B) shows screen with recorded edit in the EDL. Figure 6-35 (C) shows this split edit on a time line.

Refer to paragraph 4-37, "Split Edits," for more detailed information on programming split edits.

ACE 25:

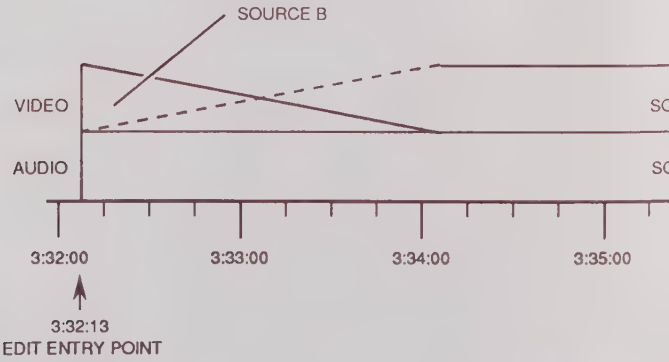
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 3;36:29 | Stop | V12 | 3;32;13 | 3;37;13 | 5,00 | | AC |
| A | 1 | L | 1;01;15;28 | Stop | V12 | 1;01;15;12 | 1;01;20;12 | 5,00 | | AC |
| B | 2 | L | 2;01;28;02 | Stop | V12 | 2;01;24;19 | 2_01_29_19 | 5,00 | | AC |
| C | 3 | | : : : : | | | : : : : | : : : : | : : : : | | |
| Aux1 | | | | | | | ;00 | : : : : | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 31 | 2 | V__ | Cut | | | 2;01;24;19 | 2_01_24_19 | 3;32;13 | 3_32_13 |
| 31 | 1 | V__ | Dis | | | 1;01;15;12 | 1;01;20;12 | 3_32_13 | 3_37_13 |
| 31 | 2 | _12 | Cut | | | 2_01_24_19 | 2_01_29_19 | 3;32;13 | 3;37;13 |
| — EDL | | | | | | | | | |
| 29R | 1 | _12 | Cut | | | 1;01;11;02 | 1;01;15;12 | 3;25;03 | 3;29;13 |
| 30R | 2 | _12 | Cut | | | 2;01;20;19 | 2;01;27;16 | 3_28_13 | 3;35;10 |
| 30R | 2 | V__ | Cut | | | 2;01;21;19 | 2;01;24;19 | 3;29;13 | 3_32_13 |

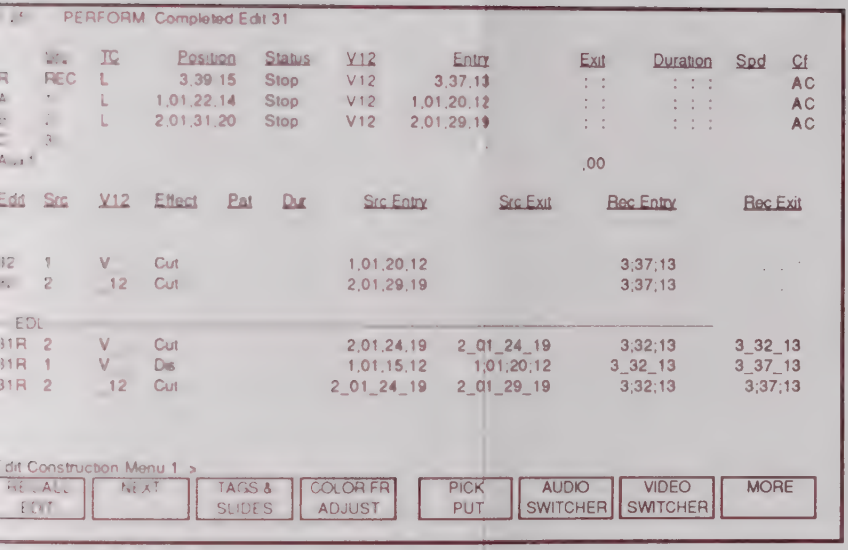
Edit Construction Menu 1: >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**A** **Ready to Edit**




**C** **Timelin**


PERFORM Completed Edit 31
Src TC Position Status V12 Entry Exit Duration Spd Cf
REC L 3,39 15 Stop V12 3,37,13 : : : : : : AC
L 1,01,22,14 Stop V12 1,01,20,12 : : : : : : AC
L 2,01,31,20 Stop V12 2,01,29,19 : : : : : : AC
,00
Edit Src V12 Effect Pat Dur Src Entry Src Exit Rec Entry Rec Exit
1 V Cut 1,01,20,12 3;37;13
2 12 Cut 2,01,29,19 3;37;13
EDL
2 V Cut 2,01,24,19 2_01_24_19 3;32;13 3_32_13
1 V Dis 1,01,15,12 1,01;20;12 3_32_13 3_37_13
2 12 Cut 2_01_24_19 2_01_29_19 3;32;13 3;37;13
dit Construction Menu 1 >
TAGS & SLIDES
COLOR FR ADJUST
PICK PUT
AUDIO SWITCHER
VIDEO SWITCHER
MORE

B Completed

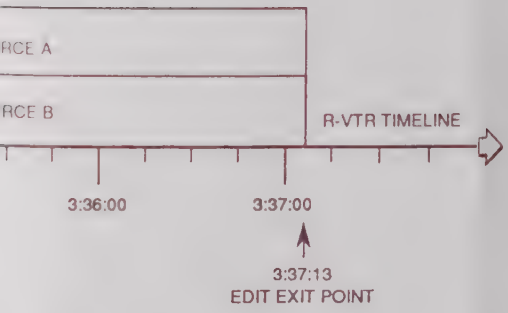



**Figure 6-35.**
**Dissolve Video—Split Cut (Hold) Audio**

## 6-63 Cut to A with Upstream and Downstream Keys

*Sample Edit 32*

In this example,

- background video is from source A,
- upstream key foreground is from AUX 1, 30 frame effect duration,
- DS key foreground source is from AUX 2, 30 frame effect duration,
- key is delayed by 1 second, DS key is delayed by 2 seconds, and
- tagged record entry time from previous edit is used.

Record a cut to A with both an upstream and a downstream key as follows:

1. Press CUT, A to select key background.

2. Mark or set in entry point for source A, then mark or set in edit duration, or leave edit open-ended.

3. Press KEY, **KEYS**, **DISS KEY UP** to select upstream key effect.

4. Press AUX 1 to select key foreground, select key parameters, enter effect duration, delay the key up, and clip key as required.

5. Press KEY, **DOWNSTRM KEYS**, **DISS DSK UP** to select DS key.

6. Press AUX 2 to select key foreground, select key parameters, enter effect duration, delay the DS key up, and clip key as required.

   Figure 6-36 (A) shows screen with multiple keys ready to perform.

7. Trim edit points as required, PREVIEW, **SWITCHER PREVIEW**, or PERFORM multiple keys, or place edit in EDL without recording.

   Figure 6-36 (B) shows screen with recorded edit in the EDL. Figure 6-36 (C) shows this multiple key effect on a time line.

ACE 25:

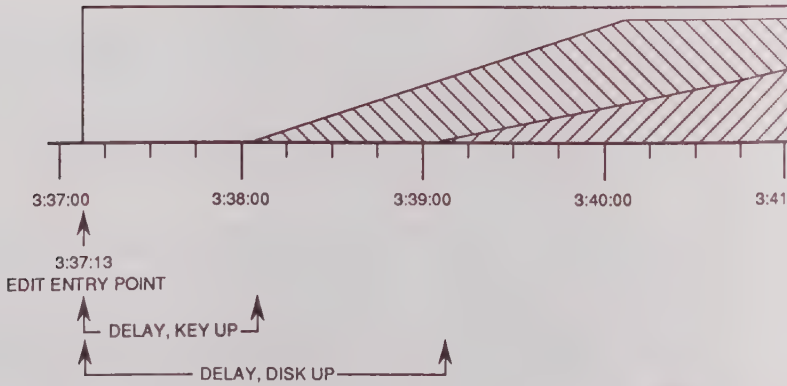
| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| R | REC | L | 3;44:03 | Stop | V12 | 3;37;13 | : : : | : : : | | AC |
| A | 1 | L | 1;01;25;29 | Stop | V12 | 1;01;20;12 | : : : | : : : | | AC |
| B | 2 | L | 2;01;31;20 | Stop | | 2;01;29;19 | : : : | : : : | | AC |
| C | 3 | | : : : | | | : : : | : : : | : : : | | |
| Aux1 | | | | | | | ;00 | : : : : : : | | |

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 32 | 1 | V12 | Cut | | | 1;01;20;12 | : : : | 3;37;13 | : : : |
| 32 | Aux1 | V12 | KyUp | | 60 | ;00 | : : : | 3;38;13 | : : : |
| 32 | Aux2 | V12 | DskUp | | 60 | ;00 | : : : | 3;39;13 | : : : |
| — EDL | | | | | | | | | |
| 31R | 2 | V__ | Cut | | | 2;01;24;19 | 2_01_24_19 | 3;32;13 | 3_32_13 |
| 31R | 1 | V__ | Dis | | | 1;01;15;12 | 1;01;20;12 | 3_32_13 | 3_37_13 |
| 31R | 2 | _12 | Cut | | | 2_01_24_19 | 2_01_29_19 | 3;32;13 | 3;37;13 |

Edit Construction Menu 1: >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

**A** **Ready to Edit**




**C** **Timelin**

PERFORM Completed Edit 32

| | Src | TC | Position | Status | V12 | Entry | Exit | Duration | Spd | Cf |
|---|---|---|---|---|---|---|---|---|---|---|
| | REC | L | 3:45 18 | Stop | V12 | 3;43;29 | : : : | : : : | | AC |
| | 1 | L | 1;01;27;14 | Stop | V12 | 1;01;26;28 | : : : | : : : | | AC |
| | 2 | L | 2;01;31;20 | Stop | | 2;01;29;19 | : : : | : : : | | AC |
| | 3 | | : : : | | | : : : | : : : | : : : | | |
| | | | | | | | ;00 | : : : : : : | | |

| Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|
| 1 | V12 | Cut | | | 1;01;26;28 | : : : | 3;43;29 | : : : |
| Aux1 | V12 | CutKy | | | ;00 | : : : | 3;43;29 | : : : |
| Aux2 | V12 | DskCt | | | ;00 | : : : | 3;43;29 | : : : |

EDL

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | V12 | Cut | | 1;01;20;12 | 1;01;26;28 | 3;37;13 | 3;43;29 |
| Aux1 | V12 | KyUp | 60 | ;00 | 5;16 | 3;38;13 | 3;43;29 |
| Aux2 | V12 | DskUp | 60 | ;00 | 4;16 | 3;39;13 | 3;43;29 |

Edit Construction Menu 1 >

RECALL EDIT | NEXT | TAGS & SLIDES | COLOR FR ADJUST | PICK PUT | AUDIO SWITCHER | VIDEO SWITCHER | MORE

B Completed

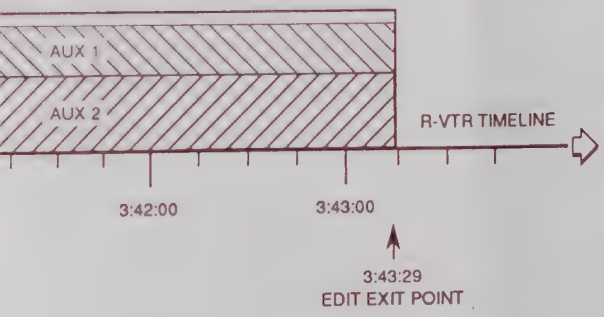



**Figure 6-36.**
**Cut to A with Upstream and Downstream Keys**

## 6-64 GENERAL PURPOSE INTERFACE (GPI) TRIGGERS

GPIs are used to control external devices such as character generators, audio tape machines, and audio cart machines which do not have serial or parallel machine interfaces. This category of machine usually has a relay closure input which accepts the trigger pulse. GPI pulses are also used in conjunction with ADO to trigger an ADO effect to run forward, backward, freeze, etc.

The ACE 25 provides four GPI ports. A separate GPI is assigned to each peripheral device or to different functions on the same device. Each GPI issues a trigger voltage to activate the device at a predetermined timecode address set by the Editor. The triggers are set relative to timecode on either the source or the record VTR and are set using the GPI menu.

On ACE 25, you can have as many as ten GPIs in the same edit, and you can use an individual GPI more than once in the same edit. This is useful when triggering a character generator to change pages more than once in an edit.

### 6-65 Setting a GPI Trigger

Set a GPI trigger in an edit as follows:

1. Press GPI to bring up the Choose GPI Function menu:

2. Press **ADD GPI** to bring up the Select GPI Port menu:

3. Select a GPI channel. Press **GPI 1, GPI 2, GPI 3,** or **GPI 4**. Note that a GPI is added in the ECL.

4. Set either an absolute or an offset trigger time. Absolute triggers are either record or source absolute. Both are entered as timecodes, and when the specified time is reached on the record or source machine, the GPI trigger occurs. Offset GPI triggers are based on the record entry time only. An **ENTRY +** offset fires the GPI at a specified time *after* the record entry point. An **ENTRY –** offset fires the GPI at a specified time *prior* to the record entry point.

   - To enter an absolute trigger time, enter the timecode in the keypad register, then press **RECORD ABSOLUTE** or select a source VTR and press **SOURCE ABSOLUTE**.
   - To enter an offset trigger, load the desired offset time into the keyboard register, and press **ENTRY +**, or **ENTRY –**.

## 6-66 Deleting a GPI Trigger

Delete a GPI trigger from the ECL as follows:

1. Use the ↑ (Arrow Up) or ↓ (Arrow Down) keys to highlight the GPI trigger in the ECL.

2. Press GPI to bring up the Choose GPI Function menu:

3. Press DELETE GPI to remove the GPI trigger from the edit under construction.

You can also delete a GPI by first highlighting the GPI line, then pressing HOME, **MORE, DELETE LINE.**

## 6-67 Modifying a GPI Trigger

Change an individual GPI trigger to another GPI port, or change a GPI trigger time as follows:

1. Use the ↑ (Arrow Up) or ↓ (Arrow Down) keys to highlight the GPI to be changed, and press GPI to bring up the Choose GPI Function menu:

2. Press MODIFY GPI, and change the physical GPI trigger port or the trigger times as required.

## 6-68 FILL MODE

The "Fill" feature allows you to fill in unrecorded gaps of audio or video record time in a program. Fill also enhances the **SOURCE TAG** mode.

After an edit has been recorded, trimming record VTR's entry point backward and pressing **SOURCE TAG** pulls source (From) VTR into sync by amount of the record trim. However, if you trim the record machine *forward*, past video that has already been recorded, pressing **SOURCE TAG** displays the message

**Fill required to transition smoothly**

on the CRT. The Fill mode essentially creates a delayed event. To use Fill, press HOME, **MORE, FILL**. The following rules apply for Fill:

- In an open-ended edit, record entry that is trimmed forward becomes soft-loaded record exit, creating the "delay." In a closed edit, if an exit point is present, record entry is not overwritten.
- After a "delay," record entry is automatically trimmed back to last record out point to create a fill.
- To complete fill, last "from" source is extended to match new record entry point. Source exit follows rules of calculated numbers, to correspond to the new record duration. After the fill, the message

  **Fill Complete. Record and Source entries re-calculated**

  appears on the CRT.
- With delay set-up, editor can perform an effect at new time, and guarantee that there is no unrecorded gap.

**Note**

**FILL works for any unrecorded gap, not just those set up by pressing SOURCE TAG. Press FILL at any time, as required, to enable any channel to create delay, and fill in unrecorded program time. FROM source for a specific channel is always extended to create delay.**

# SECTION 7

# ADVANCED LIST MANAGEMENT AND ADVANCED EDIT MODES

## 7-1 INTRODUCTION

The following Edit Decision List (EDL) management functions are discussed in this section:

- Copy
- Move
- Clean Tails
- Sort
- Renumber
- Ripple
- Slide
- Reel Number Changes
- Sync Roll
- Edit On The Fly
- Manual Modes

It is a good idea to make both a disk copy and a printed copy of the EDL before you start edit list management functions. This is helpful in case you want to go back and check against the original list.

## 7-2 COPY

The copy feature allows you to copy edits from one location in the EDL to another. This function creates a new set of edits at a specified destination, while leaving the original edits where they are. After the copy operation is completed, the cursor points to the first edit in the new set.

Edits can be copied and inserted in one of two ways:

- Copy Before
- Copy After

**Note**

**Error message is generated if ACE 25 runs out of space while copying. No partial edit is copied.**

## 7-3 Copy Before

A group of edits can be copied and inserted into the EDL at a position immediately *before* a highlighted edit.

1. Press EDL, **MORE** to bring up EDL/List Management Menu 2:

2. Mark a group of edits to be copied. Refer to paragraph 5-23 for details on marking edits.

3. Scroll the EDL and highlight the edit that will immediately follow the copied group.

4. Press **COPY BEFORE** to initiate the copy process. When completed, there are two groups of identical edits in two locations in the EDL. New edit numbers are assigned to the copied group, beginning with the current number in ECL.

## 7-4 Copy After

A group of edits can be copied and inserted into the EDL at a position immediately *after* a highlighted edit.

1. Press EDL, **MORE** to bring up EDL/List Management Menu 2:

2. Mark a group of edits to be copied. Refer to paragraph 5-23 for details on marking edits.

3. Scroll the EDL and highlight the edit that will immediately follow the copied group.

4. Press **COPY AFTER** to initiate the copy process. When completed, there are two groups of identical edits in two locations in the EDL. New edit numbers are assigned to the copied group, beginning with the current number in ECL.

## 7-5 MOVE

The move feature allows an editor to move edits from one location in the EDL to another. This function removes edits from their original location and places them at a new specified destination. After the move operation, the cursor points to the first edit in the set.

Edits can be moved and inserted in two ways:

- Move Before
- Move After

## 7-6 Move Before

A group of edits can be moved and inserted into the EDL at a position immediately *before* a highlighted edit.

1. Press EDL, **MORE** to bring up the EDL/List Management Menu 2:

2. Mark a group of edits to be moved. Refer to paragraph 5-23 for details on marking edits.

3. Scroll the EDL and highlight the edit that will immediately follow the moved group.

4. Press **MOVE BEFORE**. When completed, the group appears in the new destination. Edits retain their original numbers.

## 7-7 Move After

A group of edits can be moved and inserted into the EDL at a position immediately *after* a highlighted edit.

1. Press EDL, **MORE** to bring up the EDL/List Management Menu 2:

2. Mark a group of edits to be moved. Refer to paragraph 5-23 for details on marking edits.

3. Scroll the EDL and highlight the edit that will immediately follow the moved group.

4. Press **MOVE AFTER**. When completed, the group appears in the new destination. Edits retain their original numbers.

## 7-8 CLEAN TAILS

The Clean Tail feature is an extension of the Auto Clean function on the System Options menu. With Auto Clean on, each edit placed in the EDL is cleaned against the previous edit. With Auto Clean off, the list can be manually cleaned using Clean Tails.

The Clean Tails function eliminates edit overlapping which occurs when a new edit over-records the tail (end) of the previous edit. There are two main reasons why the EDL should have clean tails:

- If "dirty tails" are left in list during off-line editing, on-line session will be inefficient; unnecessary material will be recorded only to be over-recorded by subsequent edits.
- If "dirty tails" are left in list, when you recall and re-edit these "dirty" edits, you may over-record in points of edits already carefully constructed.

Clean Tails checks the source entry of the new edit against the record exit of the previous edit, and adjusts the record exit of the previous edit to match the source entry of the new edit. Clean Tails can be specified for one edit, a group of edits, or all edits in the EDL.

The Clean Tails function is also very sophisticated: it automatically splits exit points in previous edits to keep the EDL clean. Refer to paragraph 2-29, "Auto Clean," for more details and charts regarding the Clean Tails function.

**Note**

**Changes made by clean tails function cannot be undone with UNDO key.**

To clean "dirty tails" in the EDL:

1. Press EDL to display EDL/List Management Menu 1.

EDL/List Management Menu 1: >

| MARK FIRST | MARK LAST | CLEAN TAILS | RIPPLE | SLIDE | FILE I/O | FIND | MORE |
|---|---|---|---|---|---|---|---|

2. Mark the first and last edit if a group of edits is to be cleaned. Highlight the selected edit if one edit is to be cleaned. No block marking is necessary if all edits are to be cleaned. Refer to paragraph 5-23 for details on marking edits.

3. Press **CLEAN TAILS** to display the One, Group, All menu.

4. Press **ONE**, **GROUP**, **ALL**, **TOP TO HERE**, or **HERE TO BOTTOM** as required:
   - **ONE** cleans only highlighted edit.
   - **GROUP** cleans marked group of edits.
   - **ALL** cleans entire edit list.
   - **TOP TO HERE** cleans list from top to highlighted edit.
   - **HERE TO BOTTOM** cleans list from highlighted edit to bottom.
   - **CANCEL** or HOME aborts any list cleaning.

5. Press **CONFIRM** to begin the Clean Tails operation.

## 7-9 SORT

The Sort feature is an extension of the Auto Sort function on the System Options menu. With Auto Sort on, each edit placed in the EDL is sorted sequentially by record entry time. With Auto Sort off, the list can be manually sorted using the Sort feature in the EDL List Management area.

When Sort is activated, the selected portion of the EDL is sorted sequentially by record entry times, regardless of edit number.

To sort edits in the EDL using the Sort feature:

**Note**

**Changes made by Sort cannot be undone with UNDO.**

1. Press EDL, **MORE** to display the EDL/List Management Menu 2:

2. Press **SORT** to display the One, Group, All menu:

3. Press **ONE, GROUP, ALL, TOP TO HERE,** or **HERE TO BOTTOM.**
   - **ONE** sorts highlighted edit.
   - **GROUP** sorts marked group of edits.
   - **ALL** sorts entire edit list.
   - **TOP TO HERE** sorts list from top to highlighted edit.
   - **HERE TO BOTTOM** sorts list from highlighted edit to bottom.
   - Press **CANCEL** or HOME to abort any sorting.
4. Press **CONFIRM** to begin the Sort operation.

## 7-10 RENUMBER

The Renumber feature provides a convenient way to renumber edits that are out of sequence. Use Renumber under the following circumstances:

- If edits are moved from one EDL location to another and edit numbers are out of sequence.
- If edits are copied to new location and edit numbers are out of sequence.
- If you read in another EDL from disk and create duplicate edit numbers.
- If list is sorted and edit numbers are out of sequence.
- If portions of show are separated by their edit numbers, i.e., Act 1 starts at edit 100, Act 2 starts at 200, etc., to make it easier to read EDL and identify segments.

In some circumstances, you may not want to renumber the list. For example, after sorting by record entry times, edit 25 follows edit 4 in the list, reminding you of the sequence in which you edited the show, or where you previously left off editing. Renumbering in this situation would not be helpful, because it would make edit 25 into edit 5.

**Note**

**Edit numbers that are out of sequence do not affect sequential auto-assembly.**

To renumber edits in the EDL:

1. Press EDL, **MORE** to display the EDL/List Management Menu 2:

EDL/List Management Menu 2: >

| COPY BEFORE | COPY AFTER | MOVE BEFORE | MOVE AFTER | SORT | RENUMBER | DELETE | MORE |
|---|---|---|---|---|---|---|---|

2. Mark a first and last edit if a group of edits is to be renumbered. Highlight the selected edit if one edit is to be renumbered. No block marking is necessary if all edits are to be renumbered. Refer to paragraph 5-23 for details on marking edits.

3. Use the keypad to enter the edit number for the start of the new number sequence. If a number is not specified, the system defaults to a starting number of 1. The valid range is from 1 to 9999.

4. Press **RENUMBER** to display the One, Group, All menu:

5. Press **ONE**, **GROUP**, **ALL**, **TOP TO HERE**, or **HERE TO BOTTOM**.
   - **ONE** renumbers highlighted edit.
   - **GROUP** renumbers marked group of edits.
   - **ALL** renumbers entire edit list.
   - **TOP TO HERE** renumbers list from top to highlighted edit.
   - **HERE TO BOTTOM** renumbers list from highlighted edit to bottom.
   - Press **CANCEL** or HOME to abort any renumbering.

6. Press **CONFIRM** to begin the Renumber process.

**Note**

**Changes made by Renumber function cannot be undone with UNDO key.**

## 7-11 RIPPLE

The Ripple feature closes gaps or overlaps that may exist in the EDL due to edits that have been shortened, lengthened, added to the list, or deleted from the list. When a change like this is made to the list, adjust the record entry points of all edits following the change so that the program can be auto-assembled with no scenes over-recorded or omitted.

Two ripple modes are available:

- Simple Ripple—gives only one set of choices for cleaning EDL.
- Advanced Ripple—gives wide variety of choices for eliminating discontinuity within EDL.

## 7-12 Simple Ripple

Use the Simple Ripple mode to eliminate gaps or overlaps from the EDL. When Simple Ripple is initiated and a discontinuity is discovered, three choices are available: Ripple, Ignore and Continue, or Abort. Choosing Ripple reconciles the gap or overlap by matching audio and video channels.

The video record entrance times of the edit following the gap or overlap are adjusted to match the video record exit times of the edit preceding the gap or overlap. If audio does not match video, the audio record exit times of both audio channels of the previous edit are shifted to match the audio record entrance time of the following edit.

Use the Simple Ripple mode as follows:

1. Press EDL to bring up the EDL/List Management Menu 1:

2. Mark a first and last edit if a group of edits is to be rippled. Highlight the selected edit if one edit is to be rippled. No block marking is necessary if all edits are to be rippled. Refer to paragraph 5-23 for details on marking edits.

3. Press **RIPPLE** to display the Ripple Choice menu:

4. Select **SIMPLE MODE** to display the One, Group, All menu:

5. Press **ONE**, **GROUP**, **ALL**, **TOP TO HERE**, or **HERE TO BOTTOM**:

- **ONE** ripples highlighted edit.
- **GROUP** ripples marked group of edits.
- **ALL** ripples entire edit list.
- **TOP TO HERE** ripples list from top to highlighted edit.
- **HERE TO BOTTOM** ripples list from highlighted edit to bottom.
- **CANCEL** or HOME aborts any rippling.

6. Press **CONFIRM** to begin the Simple Ripple process.

   Each time a gap or overlap is discovered within the selected edits, the edit following the discontinuity is highlighted and the following menu appears:

7. Press **RIPPLE, IGNORE & CONT,** or **ABORT.**

- **RIPPLE** reconciles gap or overlap and continues ripple process.
- **IGNORE & CONT** passes over gap or overlap and discontinuity is not reconciled.
- **ABORT** terminates ripple process.

**Note**

**Changes made by Ripple cannot be undone with UNDO.**

## 7-13 Advanced Ripple

Use the Advanced Ripple mode to eliminate gaps or overlaps from the EDL. When Advanced Ripple is initiated and a discontinuity is discovered, a window appears on the CRT with a graphic display of the current and previous edits. A series of options allows you to choose precisely how to fill gaps and eliminate overlaps. You have the choice of matching either audio or video and lengthening or shortening the current or previous edit.

Use the Advanced Ripple mode as follows:

1. Press EDL to bring up the EDL/List Management Menu 1:

2. Mark a first and last edit if a group of edits is to be rippled. Highlight the selected edit if one edit is to be rippled. No block marking is necessary if all edits are to be rippled. Refer to paragraph 5-23 for details on marking edits.

3. Press **RIPPLE** to display the Ripple Choice menu:

4. Select **ADVANCED MODE** to display the One, Group, All Menu:

5. Press **ONE**, **GROUP**, **ALL**, **TOP TO HERE**, or **HERE TO BOTTOM**:
   - **ONE** ripples only highlighted edit.
   - **GROUP** ripples marked group of edits.
   - **ALL** ripples entire edit list.
   - **TOP TO HERE** ripples list from top to highlighted edit.
   - **HERE TO BOTTOM** ripples list from highlighted edit to bottom.
   - **CANCEL** or HOME aborts any rippling.

6. Press **CONFIRM** to begin the Advanced Ripple operation.

   If a gap or overlap is discovered within the selected range of edits, the Advanced Ripple window appears on the CRT as shown in Figure 7-1. This window is divided in half, with the *current* edit on the right and the *previous* edit on the left. For each edit, the record entry times and source for each channel are displayed vertically.

   In the upper right-hand corner of the window is the legend "CF Checking" followed by either "NONE" or "COLOR F." "NONE" is displayed if color frame checking is set to 2 fields on the system options menu. "COLOR F" is displayed if color frame checking is set to 4 or 8 fields.

**Note**

**Setting Color Frame Checking flag affects how Ripple operates in Advanced mode, specifically if editing in component or composite formats. Check setting of CF Checking, and change if necessary before proceeding.**

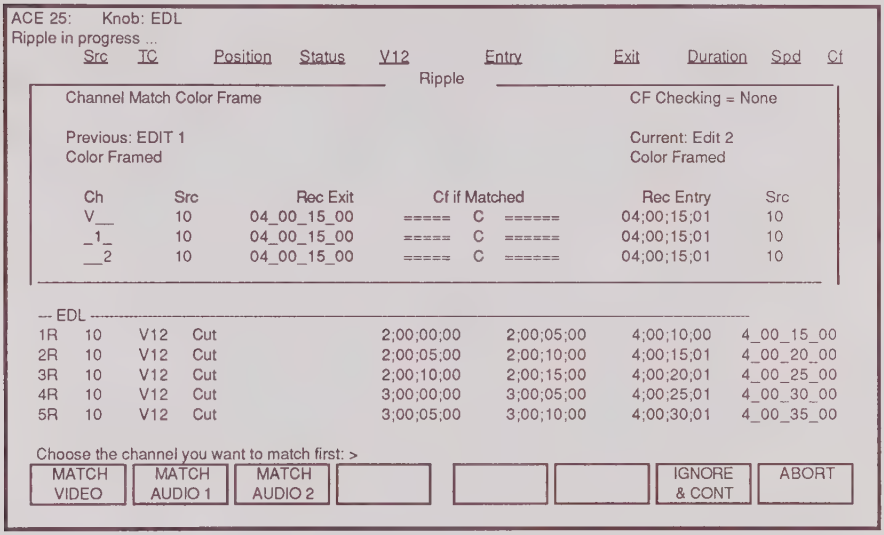

ACE 25: Knob: EDL
Ripple in progress ...
Src TC Position Status V12 Entry Exit Duration Spd Cf
Ripple
Channel Match Color Frame
CF Checking = None
Previous: EDIT 1
Color Framed
Current: Edit 2
Color Framed
Ch Src Rec Exit Cf if Matched Rec Entry Src
V__ 10 04_00_15_00 ===== C ====== 04;00;15;01 10
_1_ 10 04_00_15_00 ===== C ====== 04;00;15;01 10
__2 10 04_00_15_00 ===== C ====== 04;00;15;01 10
--- EDL ---
1R 10 V12 Cut 2;00;00;00 2;00;05;00 4;00;10;00 4_00_15_00
2R 10 V12 Cut 2;00;05;00 2;00;10;00 4;00;15;01 4_00_20_00
3R 10 V12 Cut 2;00;10;00 2;00;15;00 4;00;20;01 4_00_25_00
4R 10 V12 Cut 3;00;00;00 3;00;05;00 4;00;25;01 4_00_30_00
5R 10 V12 Cut 3;00;05;00 3;00;10;00 4;00;30;01 4_00_35_00
Choose the channel you want to match first: >
MATCH VIDEO
MATCH AUDIO 1
MATCH AUDIO 2
IGNORE & CONT
ABORT

**Figure 7-1. Advanced Ripple Mode Display**

In the upper left corner of the window is the title of the display, "Channel Match Color Frame." In the center of the display is a graphic which shows the gaps or overlaps if present, along with a "C" if the channel is color framed or an "N" if the channel is not.

When the gap or overlap is discovered, the edit following the discontinuity is highlighted, and the following menu, which enables you to choose a priority channel, appears:

7. Press **MATCH VIDEO, MATCH AUDIO 1, MATCH AUDIO 2, IGNORE & CONT,** or **ABORT.**

- **MATCH VIDEO** matches video channel first. Gap or overlap is reconciled by sliding video record entry time of current edit to match video record exit time of previous edit. This action may or may not leave gaps or overlaps in audio channels. These audio discontinuities can be resolved on further Advanced Ripple soft key menus.
- **MATCH AUDIO 1** matches audio 1 channel first. Gap or overlap in audio 1 channel is reconciled by sliding audio 1 record entry time of current edit to match audio 1 record exit time of previous edit. This action may or may not leave gaps or overlaps in video and audio 2 channels.These discontinuities can be resolved on further Advanced Ripple soft key menus.
- **MATCH AUDIO 2** matches audio 2 channel first. Gap/overlap in audio 2 channel is reconciled by sliding audio 2 record entry time of current edit to match audio 2 record exit time of previous edit. This action may or may not leave gaps or overlaps in video and audio 1 channels. These discontinuities can be resolved on further Advanced Ripple soft key menus.
- **IGNORE & CONT** passes over the gap or overlap. Discontinuity will not be reconciled.
- **ABORT** terminates ripple process.

After choosing the channel that is to be matched first the ACE 25 will detect any overlaps in the channels that were not selected to be matched first. When an overlap is detected, that channel is highlighted in the Ripple window and the following soft key menu, which provides three choices for eliminating the overlap, is displayed:

8. Press **MATCH FIRST, SHORTEN PREVIOUS, SHORTEN CURRENT, IGNORE & CONT,** or **ABORT.**

- **MATCH FIRST** removes overlap for that channel by adjusting record entry time of current edit and record exit time of previous edit so that they occur at same time as edit in priority channel selected in step 7.
- **SHORTEN PREVIOUS** removes overlap for highlighted channel by shortening length of previous edit so that its record exit time matches record entrance time of current edit.
- **SHORTEN CURRENT** removes overlap for highlighted channel by shortening length of current edit so that its record entrance time matches record exit time of previous edit.
- **IGNORE & CONT** passes over overlap ahead of highlighted edit. This overlap will not be reconciled.
- **ABORT** ends ripple process.

If another overlap is detected in the remaining audio or video channel, that channel is highlighted in the Ripple Window, and the above step is repeated.

When a gap or hole is detected, that channel is highlighted in the Ripple window and the following soft key menu, which provides three choices for eliminating the gap, is displayed:

9. Press **MATCH FIRST, LENGTHEN PREVIOUS, LENGTHEN CURRENT, IGNORE & CONT,** or **ABORT.**

- **MATCH FIRST** fills gap for that channel by adjusting record entry time of current edit and exit time of previous edit so that they occur at same time as edit in priority channel selected in step 7.
- **LENGTHEN PREVIOUS** fills gap for highlighted channel by lengthening record exit time of previous edit so that it matches record entrance time of current edit.
- **LENGTHEN CURRENT** fills gap for highlighted channel is filled by lengthening current edit so that its record entrance time matches record exit time of previous edit.
- **IGNORE & CONT** passes over gap ahead of highlighted edit. Gap will not be closed.
- **ABORT** ends ripple process.

If another gap is detected in the remaining audio or video channel, that channel is highlighted in the Ripple Window and the above step is repeated.

During the Advanced Ripple process, the system also checks for color framing discontinuities. When a color frame discontinuity is found, the following soft key menu is displayed:

Choose a method to correct Color Framing: >

| | SHORTEN PREVIOUS | LENGTHEN PREVIOUS | | LENGTHEN CURRENT | SHORTEN CURRENT | IGNORE & CONT | ABORT |
|---|---|---|---|---|---|---|---|

This menu provides you with options to adjust the lengths of the previous or current edits by the number of fields necessary to reestablish color framing.

## 7-14 SLIDE

The Slide feature is used to move one or more edits in the EDL forward or backward by a specified amount. Slide is often useful when you have copied a group of edits and wish to auto-assemble them in another location on the edited master.

Slide only affects record times and is similar to a function called "Renumber Record Start Time" on other editing systems. Slide is also similar to Ripple, but without the precise channel matching, color frame checking, or graphic display window.

The ACE 25 allows you to program slides in two ways:

- Absolute time
- Relative time

## 7-15 Absolute Slide

Perform an Absolute Slide to EDL record times as follows:

1. Press EDL to display the EDL/List Management Menu 1:

2. Mark a first and last edit to slide a group of edits. Highlight a selected edit to slide one edit. No block marking is necessary to slide all edits. Refer to paragraph 5-23 for details on marking edits.

3. Press **SLIDE**.

4. Enter the number on the keypad for the specific starting timecode location at which you want the group of edits to slide.

5. Press **ONE, GROUP, ALL, TOP TO HERE,** or **HERE TO BOTTOM.**
   - **ONE** slides only highlighted edit.
   - **GROUP** slides marked group of edits.

- **ALL** slides entire edit list.
- **TOP TO HERE** slides list from top to highlighted edit.
- **HERE TO BOTTOM** slides list from highlighted edit to bottom.
- **CANCEL** or HOME aborts any sliding.

6. Press **CONFIRM** to begin the Absolute Slide operation.

## 7-16 Relative Slide

Perform a Relative Slide to EDL record times as follows:

1. Press EDL to display the EDL/List Management Menu 1:

2. Mark a first and last edit to slide a group of edits. Highlight a selected edit to slide one edit. No block marking is necessary to slide all edits. Refer to paragraph 5-23 for details on marking edits.

3. Press **SLIDE**.

4. Enter + or – on the keypad, followed by the specific amount of time (in frames or timecode) that you want the group of edits to slide relative to the first record entry time in the group. A + slides the group forward, a – slides the group backward in time.

5. Press **ONE, GROUP, ALL, TOP TO HERE,** or **HERE TO BOTTOM**.
   - **ONE** slides only highlighted edit.
   - **GROUP** slides marked group of edits.
   - **ALL** slides entire edit list.
   - **TOP TO HERE** slides list from top to highlighted edit.
   - **HERE TO BOTTOM** slides list from highlighted edit to bottom.
   - **CANCEL** or HOME aborts any sliding.

6. Press **CONFIRM** to begin the Relative Slide operation.

## 7-17 EDL REEL NUMBER CHANGES

The EDL Reel Number Change feature allows you to easily change source reel numbers in the EDL. One of the most important tasks in an edit session (and often the most forgotten task), is entering the new reel number in ACE 25's Transport Status area each time a source reel on a VTR is changed. If there are numerous source reels in the session, and any re-editing is required, it is difficult to remember which reel a particular scene came from if the reel numbers are not carefully entered.

The Reel Number Change feature allows you to change reel numbers already in the EDL, should you forget to enter the correct number, or should you physically re-label specific reels during the edit session. To use this feature:

1. Press EDL to display the EDL/List Management Menu 1:

2. Mark a first and last edit to change reel numbers on a group of edits. Highlight a selected edit to change reel numbers on one edit. No block marking is required to change reel numbers on all EDL edits. Refer to paragraph 5-23 for details on marking edits.

3. Press EDL, **MORE**, **MORE** to bring up EDL List Management Menu 3:

4. Press **CHANGE REEL #** to display the following menu:

5. To select the old reel number, enter the number on the keypad and press **CHANGE FROM**. This number now appears after the word "From" on the prompt line above the soft keys. To select the new reel number, enter the number on the keypad and press **CHANGE TO**. This number appears after the word "To" on the prompt line.

6. Press **PERFORM CHANGE** when data entry is complete to display the One, Group, All Menu:

7. Press **ONE, GROUP, ALL, TOP TO HERE**, or **HERE TO BOTTOM**.
   - **ONE** changes reel numbers of highlighted edit.
   - **GROUP** changes reel numbers of marked group of edits.
   - **ALL** changes reel numbers of entire edit list.
   - **TOP TO HERE** changes reel numbers from top of EDL to highlighted edit.
   - **HERE TO BOTTOM** changes reel numbers from highlighted edit to bottom of EDL.
   - **CANCEL** or HOME aborts any reel number changes.

8. Press **CONFIRM** to begin the Reel Number Change operation.

**Note**

**Reel number changes for FROM/TO fields can be made at any time and in any order. If valid old reel numbers (CHANGE FROM) are not found, ACE 25 returns an error message.**

## 7-18 SYNC ROLL

The Sync Roll feature allows you to create separate "roll" lines for a VTR, which are fully listed in the EDL. Sync Roll is useful for rolling a VTR during an edit to fill an ADO key, or to roll in sound effects for a mix. The crosspoint of the rolled VTR is not selected but the VTR still rolls and synchronizes for the edit.

The ACE 25 has two different Sync Roll modes:

- Single VTR Sync Roll
- Multiple VTR Sync Roll

## 7-19 Single VTR Sync Roll

To create a Sync Roll line for a *single* VTR in an edit, press SHIFT, CUT, followed by the source VTR hard key A, B, or C. This places the selected VTR on a special Roll line in the ECL.

For example, the edit shown in Figure 7-2 is a CUT KEY, with VTR A (source 10) as the background and AUX 1 as the key source.

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 10 | V12 | Cut | | | 1:00:00:00 | 1_00_05_00 | 2:00:00:00 | 2:00:05:00 |
| 6 | Aux1 | V12 | CtKy | | | :00 | 5_00 | 2:00:00:00 | 2:00:05:00 |

**Figure 7-2. Sample ECL: Cut Key**

In this example, the editor keys ADO and wants to roll VTR B (reel 20), which is the moving video source feeding ADO. To create a sync roll line for reel 20, press SHIFT, CUT, B. Figure 7-3 shows the sync roll line as it appears in ECL.

See paragraph 7-20 for important rules governing Single VTR Sync Rolls.

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 6 | 10 | V12 | Cut | | | 1:00:00:00 | 1_00_05_00 | 2:00:00:00 | 2:00:05:00 |
| 6 | Aux1 | V12 | CtKy | | | :00 | 5_00 | 2:00:00:00 | 2:00:05:00 |
| 6 | 20 | | Roll | | | 3:00:00:00 | 3_00_05_00 | 2:00:00:00 | 2:00:05.00 |

**Figure 7-3. Sample ECL: Cut Key with Sync Roll Line**

## 7-20 Multiple VTR Sync Roll

To create Sync Roll lines for *multiple* VTRs, press SHIFT, CUT, followed by the source VTR hard key for *each* source VTR included in the Roll.

For example, create a cut to Aux 3. Press CUT, AUX3. Now, create a Sync Roll line for VTRs A, B, and C. Press SHIFT, CUT, A, SHIFT, CUT, B, SHIFT, CUT, C. Figure 7-4 shows the multiple sync roll lines as they appear in ECL.

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 7 | Aux3 | V12 | Cut | | | :00 | 5_00 | 2:00:05:00 | 2:00:10:00 |
| 7 | 10 | | Roll | | | 1:00:05:00 | 1_00_10_00 | 2:00:05:00 | 2:00:10:00 |
| 7 | 20 | | Roll | | | 3:00:05:00 | 3_00_10_00 | 2:00:05:00 | 2:00:10:00 |
| 7 | 30 | | Roll | | | 5:00:05:00 | 5_00_10_00 | 2:00:05:00 | 2:00:10:00 |

**Figure 7-4. Sample ECL: Multiple VTR Sync Roll**

The following are important rules regarding single and multiple VTR Sync Rolls:

- Record VTR cannot be put into sync roll mode.
- VTRs in sync roll begin their roll at earliest record entry for entire event.
- Sync roll lines are single lines, similar to GPI lines. No effects are possible on sync roll lines.
- Only source VTRs can be placed in sync roll. Aux sources cannot.
- Sync roll lines tag. ACE 25 assumes that source used in last sync roll is going to be involved in sync roll for next edit.
- Sync roll works with position editing on or off.
- Sync roll works with slow motion editing on or off.
- Sync roll lines are listed and stored in EDL on disk.
- To remove sync roll line, highlight line in ECL and press HOME, **MORE, DELETE LINE.**

## 7-21 EDIT ON THE FLY

The Edit On The Fly (EOTF) feature works hand-in-hand with Sync Roll mode, letting you cut, dissolve, and wipe live (in real time) during an edit, and build an EDL as you go.

**Note**

**There must be one or more roll lines in ECL for EOTF to function.**

During EOTF mode, the ACE 25 keyboard is literally turned into a switcher. All cuts, wipes, and dissolves are logged into the EDL as you edit. Key effects are not included with on-the-fly cutting due to the complexity of the information required.

EOTF can be accomplished in one of two edit modes:

- EOTF Preview

  To initiate EOTF Preview mode, press SHIFT + PREVIEW. VTRs preroll, synchronize, and preview begins at pre-programmed point. The words

  **EOTF PREVIEW**

  appear on CRT top line. All subsequent EOTF actions are logged in EDL.

- EOTF Perform

  To initiate EOTF Perform edit mode, press SHIFT + PERFORM (PREVIEW + EDIT). VTRs preroll, synchronize, and recording begins at pre-programmed point. The words

  **EOTF PERFORM**

  appear on CRT top line. All subsequent EOTF actions are logged in EDL.

## 7-22 EOTF Set Up

Set up ACE 25 for an EOTF sequence as follows:

1. Program a Cut to the *first* VTR to be involved in the EOTF event. Press CUT, (A, B, or C).

2. Add sync roll lines for each additional VTRs to be included in the EOTF sequence. Press SHIFT, CUT, followed by the source VTR hard key for *each* source VTR.

3. Leave the edit open ended if the EOTF segment is lengthy, or program a Record VTR out point as required.

4. Press SHIFT + PREVIEW or SHIFT + PERFORM to enter the EOTF Preview or Perform mode as required.

Figure 7-5 shows an example of an edit which is set up and ready for EOTF Preview or Perform. In the example, an open-ended cut to VTR A (reel 10) is programmed with VTR B (reel 20) in sync roll.

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 8 | 10 | V12 | Cut | | | 1:00:10:00 | : : : | 2:00:10:00 | : : : |
| 8 | 20 | | Roll | | | 3:00:10:00 | : : : | 2:00:10:00 | : : : |

**Figure 7-5. Sample ECL: Open-ended Cut with Sync Roll Line**

## 7-23 EOTF Cuts

To cut live to a source *during the EOTF interval*, press the hard key of any source VTR involved in the edit (A, B, C), or the hard key of any Auxiliary source (BLACK, AUX 1, AUX 2, AUX 3). When this is done, ACE 25 cuts on-the-fly to the new selected source, and instantly performs the following steps:

- Instructs assigned switcher to perform a CUT
- Marks out on current event
- Places completed event in EDL and tags edit
- Updates event and event number in ECL
- Continues recording

Use the edit from Figure 7-5 as a continuing example. With the cut in progress, at 10:00 into the edit, press B. This initiates a cut on-the-fly to VTR B. The EDL and ECL appear as shown in Figure 7-6:

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 9 | 20 | V12 | Cut | | | 3:00:20:00 | : : : | 2:00:20:00 | : : : |
| 9 | 10 | | Roll | | | 1:00:20:00 | : : : | 2:00:20:00 | : : : |
| ---EDL---------- | | | | | | | | | |
| 8 | 10 | V12 | Cut | | | 1:00:10:00 | 1:00:20:00 | 2:00:10:00 | 2:00:20:00 |
| 8 | 20 | | Roll | | | 3:00:10:00 | 3:00:20:00 | 2:00:10:00 | 2:00:20:00 |

**Figure 7-6. Sample ECL / EDL: Edit On The Fly, Cut to B**

Note that in Figure 7-6 ACE 25 marked out on event 8, and placed it in the EDL, tagged the event, updated the ECL with a new event number, and correctly labeled event 9 a Cut to B with a Roll line for A. Event 9 also remains open-ended as the event is still in progress. You can continue pressing A, B, and Aux sources to cut on-the-fly.

## 7-24 EOTF Dissolves and Wipes

To dissolve or wipe live to a source *during the EOTF interval*, press DISSOLVE or WIPE followed by a VTR or Aux source. ACE 25 initiates a dissolve or wipe on-the-fly to the selected source, and instantly performs the following steps:

- Instructs assigned switcher to perform a DISSOLVE or WIPE
- Marks out on current event
- Places completed event in EDL and tags edit
- Updates event and event number in ECL
- Continues recording

Use the edit from Figure 7-6 as a continuing example. With the cut to B in progress, at 10:00 into the edit, press DISSOLVE, A. This initiates a dissolve on-the-fly to VTR A. The EDL and ECL appear as shown in Figure 7-7:

| Edit | Src | V12 | Effect | Pat | Dur | Src Entry | Src Exit | Rec Entry | Rec Exit |
|---|---|---|---|---|---|---|---|---|---|
| 10 | 20 | V12 | Cut | | | 3:00:30:00 | 3:00:30:00 | 2:00:30:00 | 2:00:30:00 |
| 10 | 10 | V12 | Diss | | 30 | 3:00:30:00 | : : : | 2:00:30:00 | : : : |
| 10 | 10 | | Roll | | | 1:00:30:00 | : : : | 2:00:30:00 | : : : |
| ---EDL---------- | | | | | | | | | |
| 8 | 10 | V12 | Cut | | | 1:00:10:00 | 1:00:20:00 | 2:00:10:00 | 2:00:20:00 |
| 8 | 20 | | Roll | | | 3:00:10:00 | 3:00:20:00 | 2:00:10:00 | 2:00:20:00 |
| 9 | 20 | V12 | Cut | | | 3:00:20:00 | 3:00:30:00 | 2:00:20:00 | 2:00:30:00 |
| 9 | 10 | | Roll | | | 1:00:20:00 | 1:00:30:00 | 2:00:20:00 | 2:00:30:00 |

**Figure 7-7. Sample ECL/EDL: Edit On The Fly, Dissolve to A**

The dissolve or wipe duration currently in that register is the duration at which the transition occurs. The wipe pattern currently in that register is the pattern with which the transition occurs.

During EOTF editing, the transition is not executed until the hard key for the source is pressed. This allows you time to change the effect durations and wipe patterns during the EOTF mode.

For example, with the EOTF recording in progress, press the hard key WIPE. On the keypad, press 15, followed by the soft key **PATTERN**. At this point you can change duration, and the transition will not begin. Press the hard key B, and the source wipes to B with the new pattern (and duration if entered).

**Note**

**During EOTF editing, only following soft keys change parameters: H/S/O/o EDGE, NORMAL/REVERSE, WIPE PATTERN, EFFECT DURATION, and BORDER WIDTH. When pressed, associated parameter and ECL displays are updated.**

Editing on-the-fly can continue in this manner (using CUT, WIPE, and DISSOLVE transitions) until terminated with STOP, ALLSTOP, or the original line's pre-programmed out point. Throughout the EOTF interval, the list continues to be built.

The following are important Edit On The Fly rules:

- EOTF only works if one or more sync roll lines are present in edit.
- EOTF is active in ECL only, not EDL.
- System provides full listing of all EOTF events, which can be written to and read from disk.
- System returns an error message if a transition to a VTR not in sync roll mode is attempted.
- EOTF mode assumes that edit is open-ended. However, if hard-loaded record exit is present in first pre-programmed event, exit point is obeyed and edit terminates at record out point.
- EOTF mode does not permit Key effects.

## 7-25 MANUAL MODES

ACE 25's five Manual modes allow the editor to manually control the following areas during preview or perform edit:

- Audio level
- Fader transition
- Transport control
- Channel select
- GPI Trigger

The following are brief explanations of each manual mode:

- Audio level

  Manual audio level control, which allows manual adjustment of audio levels, is designed for ACE 25's internal audio switcher only. Editor selects source VTR to be controlled, selects audio channel(s), initiates mode, and manually controls audio level with rotary knob.

- Fader Transition

  Manual fader control allows manual mixing of A/B transitions, such as Dissolves, Wipes, and Keys. Editor selects appropriate type of fader, selects channels, initiates manual fader mode, and manually controls transition with rotary knob.

- Transport Control

  Manual transport control allows manual dynamic motion control (VAR PLAY or JOG) of transport during preview or perform. Editor selects source VTR to be controlled, initiates mode, and manually controls transport's motion with rotary knob.

- Channel Select

  Manual channel select allows editor to take manual control of edit channel modes (V, A1, A2). During preview or perform edit, video or audio channels can be enabled or disabled as desired, and split edits on-the-fly can be performed.

- GPI Trigger

  Manual GPI trigger control allows manual control of times in which four GPI triggers occur.

The following are common manual mode rules:

- MAN accesses all manual modes.
- Manual control mode works in normal ECL editing area; it does *not* function in EDL or in Auto-assemble mode.
- Before entering any manual mode, ACE 25 performs everything according to pre-programmed ECL edit. Once manual control is entered, depending on type of manual control specified, some edit information will be ignored. This information is detailed under notes in following sections. All other edit information is obeyed.
- Manual control performed is *not* learned or stored, and is *not* repeatable. As required, edits must be performed with manual modes again as necessary.
- Manual control can be entered at any time during preroll interval (*not* including cueing), or during edit interval itself.
- A new manual mode can be entered on top of a current mode, as long as there is no conflict in control. If conflict arises, new mode takes priority. Table 7-1 shows control mechanisms for each manual mode.
- To terminate manual control, press STOP, ALLSTOP, or allow edit to reach pre-programmed out-time. Other methods for terminating specific manual modes are detailed in following sections.
- Once manual control is activated, ECL edit cannot be changed.
- ACE 25 automatically adds one comment line in ECL at activation for each type of manual mode used in that edit. This comment line is transferred to the EDL at completion of edit as a note to editor that manual control was used. Press **RECALL EDIT** to recall edit and associated comment lines from EDL. As required, press HOME, **MORE, DELETE LINE** to remove comment lines from the ECL.

Table 7-1. Manual Mode Primary and Secondary Controls

| Manual Mode | Primary Control | Secondary Control |
|---|---|---|
| Audio Level | Knob | Soft key and Source select hard keys |
| Transport Control | Knob | VTR mode and Source select hard keys |
| Fader Control | Knob only | Four types of fader control provided |
| Channel Select | Channel Select hard keys | Not applicable |
| GPI Triggers | Soft keys only | Not applicable |

## 7-26 Manual Audio Levels

The Manual Audio Level mode allows you to use ACE 25's rotary knob to adjust audio levels during preview or perform edit. Before proceeding, make sure that you have read the information in paragraph 7-25.

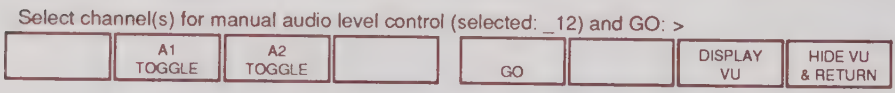
To initiate Manual Audio Level control:

1. Press MAN to display the Manual Control Selection menu:

2. Press **AUDIO LEVEL**. At this time, the CRT top line reads:

**ACE 25: Select source for manual audio level control**

3. Select the desired source to be manually controlled by pressing the appropriate source select hard key. The following menu is displayed:




On the prompt line above the soft keys, "selected" shows the current selected channels. The default channels are all audio channels.

4. Toggle the channels on or off as required to select the channels for manual control.

5. Press PREVIEW or PERFORM edit, and press **GO** during preroll or during the edit interval to activate manual audio control. The top line of the CRT now reads:

**ACE 25: MAN: Audio Inp _12 PERFORM: Rolling Edit 1**

At activation, the following comment is generated above the edit:

*** Manual: Audio Input.**

This comment is also transferred to EDL on completion of the event.

6. Turn the rotary knob as required to adjust the audio level (clockwise to increase level, counter clockwise to decrease level). The knob will be initialized to the audio level value in the pre-programmed edit.

7. The channel select soft keys and source select hard keys remain active during the edit or preview interval to allow you to change sources and channels on-the-fly.

8. The VU meter can be displayed from the channel select menu. Press **DISPLAY VU** to show the meter or **HIDE VU AND RETURN** to remove the meter. The selected channels will be highlighted on the meter in the normal manner.

9. To terminate manual audio completely, press STOP, ALLSTOP, or allow the edit to reach a pre-programmed out point. To terminate the manual audio without aborting the edit, press MAN, then **CANCEL MAN CTRL**.

**Note**

**Once manual audio is entered, only pre-programmed audio levels for source and channels under manual control are ignored. Error message appears if you select as source:**

- **Audio channel not involved in edit**
- **Source not involved in edit**
- **Record transport**

**Manual audio only functions with ACE 25's internal audio switcher, and is *not* learned, stored, or repeatable.**

## 7-27 Manual Fader Control

The Manual Fader Control mode allows you to manually control one of four faders during preview or perform edit. Before proceeding, make sure that you have read the information in paragraph 7-25.

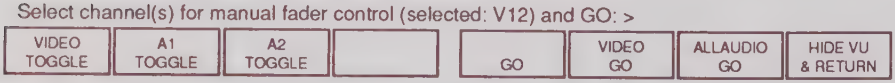
To initiate Manual Fader control:

1. Press MAN to display the Manual Control Selection menu:

2. Press **FADER CONTROL** to display the following menu:

3. Press soft key of choice to select one of the four fader types. If the fader exists in the edit, the ECL highlight will jump to that line.
   - **M/E FADER** manually controls rate of dissolve or wipe
   - **KEY FADER** manually controls rate of key up, key down, or key up/down
   - **DSK FADER** manually controls rate of DS key up, DS key down, or DS key up/down
   - **DS FADE FADER** manually controls rate of DS Fade up or DS Fade down

   When you select a fader, the following menu is displayed:




On the prompt line above the soft keys, "selected" shows the current selected channels. The default channels are those in the fader line selected for manual control.

4. Toggle the channels on or off as required to select the channels for manual control. The mode will not be activated at this point.

5. Press PREVIEW or PERFORM edit, then press **GO**, **VIDEO GO**, or **ALL AUDIO GO** to activate the manual fader control:

   - **GO** activates manual fader control for channels currently chosen
   - **VIDEO GO** activates manual fader control with video only
   - **ALL AUDIO GO** activates manual fader control with all audio channels

   The menu returns to the manual control selection menu. Fader control is activated and the top line of the CRT reads:

   **ACE 25: MAN: M/E Fader PERFORM: Rolling Edit 2**

   At activation, the following comment is generated above the edit:

   *** Manual: Fader M/E**

   This comment is also transferred to EDL on completion of the event.

6. Turn the rotary knob as required to manually adjust the selected fader. The rotary knob will be initialized to the fader start value in the pre-programmed edit.

7. To terminate manual fader, press STOP, ALLSTOP, or allow edit to reach a pre-programmed out point. To terminate manual fader control without aborting the edit, press MAN, then **CANCEL MAN CTRL**.

The following are manual fader activation rules:

- If manual fader control is activated before pre-programmed transition begins, knob is initialized to full A Bus or to fader start value if transition is partial. Pre-programmed start times and effect durations are ignored.
- If manual fader control is activated while fader transition is already in progress, ongoing transition is "frozen" until knob is turned. Pre-programmed transition end-times are ignored.

- If manual fader control is activated after pre-programmed transition has been completed, knob is initialized to full B Bus or fader end value if transition is partial.
- If manual fader control is activated during preroll, knob defaults to fader start value, and pre-programmed transition times and effect durations are ignored.
- Once one type of manual fader control is activated, you are in control of that specific transition, but other types of fader transitions in edit will still be carried out.

**Note**

**Manual fader control functions with ACE 25's internal video switchers, Penguin, Vista, and GVG-100. Error messages are displayed under following circumstances:**

- **Switcher does not support requested type of manual fader transition.**
- **Requested fader type does not exist in edit.**
- **Audio channel is selected for Key fader and DSK fader.**

**Manual fader control is *not* learned, stored, or repeatable.**

## 7-28 Manual Transport Control

The Manual Transport Mode allows manual control of a transport in VAR PLAY or JOG mode during preview or perform edit. Before proceeding, make sure that you have read the information in paragraph 7-25.

To initiate Manual Transport control:

1. Press MAN to display the Manual Control Selection menu:

2. Press **TRANSPORT CONTROL**. The CRT top line reads:

   **ACE 25: Select source for manual transport control**

3. Select the desired transport. The CRT top line reads:

   **ACE 25: Select transport mode, JOG or VAR**

4. Press PREVIEW or PERFORM edit, then press **JOG** or **VAR**. This activates manual transport control. At activation, the following comment is generated above the edit:

   *** Manual: Transport**

5. Turn the knob to manually control the transport. You can speed up, slow down, freeze or jog the transport. The source hard keys and the two transport mode hard keys (JOG and VAR) remain active during preview or edit. This allows you to change modes on-the-fly.

   After you press VAR, but before you turn the knob, the transport remains at its current speed. The transport status column indicates VarPly. After you press JOG, but before you turn the knob, the transport stops immediately. The transport status column indicates VarPly. Pressing JOG (without turning the knob) is also the way to use manual transport control to freeze on-the-fly.

6. To terminate manual transport control, press STOP, ALLSTOP, or allow the edit to reach a pre-programmed out point. To terminate manual transport control without aborting the edit, press MAN, then **CANCEL MAN CTRL**. If you terminate without aborting, the VTR under control will remain at its current mode and speed, but will not be monitored by ACE 25.

The following are manual transport control activation rules:

- Multiple transports can be placed in manual transport control. In this mode, if you change to control another VTR, it defaults to the same mode as the current transport under control. If the old VTR is in VAR, the new VTR will be in VAR at its current speed until you turn the knob. The old VTR remains at the speed at which it was left.

- Once a transport has been put under manual control, it *cannot* be put back into sync. However, by pressing PLAY, you can put the VTR into normal play speed. In this case, manual transport control will be automatically terminated.
- Transports can be placed in manual transport control during "syncing" and during "synced" phases, and still achieve sync with the pre-programmed in point. However, if a transport is placed in manual transport control before it is synchronized, the sync relationship will be ignored from that point on.

Note

**Once manual transport mode is entered, sync relationship of transport under control, namely source entry, source exit, and speed of transport is ignored. Error messages are displayed under following circumstances:**

- **Manual control is attempted for transport not involved in edit. Selected transport can still be controlled.**
- **Manual control is attempted for record VTR.**

**Manual transport control is *not* learned, stored, or repeatable.**

## 7-29 Manual Channel Select

The Manual Channel Select mode allows you to manually enable and disable edit channels (V, A1, A2) on-the-fly during the edit. Before proceeding, make sure that you have read the information in paragraph 7-25.

To initiate Manual Channel Select control:

1. Press MAN to display the Manual Control Selection menu:

2. Press PREVIEW or PERFORM edit.

3. On the manual selection menu, press **CHANNEL SELECT**. Manual Channel Control is activated and the CRT top line reads:

   **ACE 25: MAN: Chan Sel PERFORM: Rolling Edit 2**

   At activation, the following comment is generated above the edit:

   *** Manual: Channels**

   This comment is also transferred to EDL on completion of edit.

4. During preroll, all channels are disabled as a default, as the record timeline has not reached any entry point yet. All channels are under manual control at this point.

5. Enable or Disable channels by pressing V, A1, or A2. The channel select hard keys remain active during preroll and the edit interval, allowing you to enable or disable channels on-the-fly, as often as required. This mode is effectively "split" on-the-fly.

6. To terminate Manual Channel Select, press STOP, ALLSTOP, or allow the edit to reach a pre-programmed out point. To terminate the manual transport without aborting the edit, press MAN, then **CANCEL MAN CTRL**.

Note

- A channel can only physically record if it is within its record range, which is defined as interval between a channel's minimum record entry and its maximum record exit time. This is particularly important for pre-programmed split edits, where record ranges for different channels may differ.
- Once Manual Channel Select mode is entered, ACE 25 ignores that each channel is recording within its record range. As long as a channel is within record range for entire edit, you can stop channel from recording anytime in its record range, or force it to record outside of its own record duration.
- Manual Channel Select is one of two manual controls in which rotary knob has no function. The other is Manual GPI.
- ACE 25 must be in INSERT editing mode for manual channel select to work.
- Manual Channel Select control is *not* learned, stored, or repeatable.

## 7-30 Manual GPI

The Manual General Purpose Interface (GPI) mode allows you to manually fire GPI triggers on-the-fly during the edit interval. Before proceeding, make sure that you have read the information in paragraph 7-25.

To initiate Manual GPI control:

1. Press MAN to display the Manual Control Selection menu:

2. Press **GPI TRIGGER**. At this time, manual GPI trigger control is activated and the CRT top line reads:

**ACE 25: MAN: GPIs**

The following soft key menu is displayed:

This menu remains up throughout the entire GPI manual control interval. At activation, the following comment is generated above the edit:

*** Manual: GPI**

This comment is also transferred to EDL on completion of the event.

3. Press PREVIEW or PERFORM edit.

4. Press the appropriate soft key to fire off any GPI at any time.

5. To terminate Manual GPI, press STOP, ALLSTOP, or allow the edit to reach a pre-programmed out point. To terminate manual GPI without aborting the edit, press MAN, then **CANCEL MAN CTRL**.

When Manual GPI mode is activated, you have control over all four GPI ports, even though the ECL edit may have only one, or even *no* GPIs triggers programmed.

The following are manual GPI mode activation rules:

- Pre-programmed GPI triggers are not ignored during manual GPI control.
- A GPI can be triggered anytime during preroll or during preview/edit interval.
- Same GPI can be triggered manually more than once within one edit.
- GPI trigger lasts for GPI pulse width defined on GPI I/O Configuration menu.

**Note**

- **If last GPI triggered manually is still within its pulse width when GPI mode is terminated by STOP, ALLSTOP, or by record out-time, pulse width will be shortened.**
- **If any hard key is pressed to bring up any soft key menu, GPI control soft key menu disappears, cancelling manual GPI control mode immediately. However, preview or perform edit in progress continues.**
- **Manual GPI is one of two manual controls in which rotary knob has no function. The other is Manual Channel Select.**
- **Manual GPI control is *not* learned, stored, or repeatable.**

# SECTION 8

# REFERENCE

## 8-1 INTRODUCTION

The following items are discussed in this section:

- On- and Off-line Editing
- Timecode
- Color Framing
- Soft Key Menu Tree

## 8-2 ON- AND OFF-LINE EDITING

The ACE 25 system can perform both on-line and off-line editing.

On-line editing is a method of editing that produces final, edited master tapes, which include all last-minute editing changes. This form of editing is performed in post-production studios, with equipment including VTRs, switchers, special effects, character generator, and graphics. On-line editing costs can be high because of the equipment utilized in the edit suite.

Off-line editing is a method of editing that produces edit decisions using timecoded work tapes and window dubs. These edit decisions are stored in the EDL, which is later assembled on-line using original source tapes. Off-line editing is usually less expensive than on-line editing, because less and smaller format equipment is used.

## 8-3 TIMECODE

Timecode is binary-coded information, recorded on the video tape, which defines and identifies each sequential frame. The code also contains information on color frame phase and drop-frame/full-frame mode, and provides optional user bits. There are two different types of timecode: longitudinal timecode (LTC) and vertical interval timecode (VITC). If LTC or VITC is not present on tape, the ACE 25 system can substitute tape timer (TT) output from the video tape's control track. Most VTRs currently use longitudinal timecode. Figure 8-1 illustrates the longitudinal timecode *word*, a series of binary pulses which comprise a single frame of video (hours, minutes, seconds and frames).

Timecode reader-generators are incorporated into most VTRs, or can be standalone units attached to video or audio tape transports. All major television standards use timecode (NTSC, PAL, PAL-M, and SECAM), commonly called SMPTE/EBU timecode. In NTSC and PAL-M, two different timecode modes are available: non-drop frame (also called full frame) and drop frame.

## 8-4 Timecode Location

Longitudinal timecode is typically located on the Audio 3 track on type "C" VTRs, but may be recorded on other audio tracks on different format VTRs. With Betacam SP VTRs, for example, a special channel separate from audio channels 1 through 4 is reserved for timecode. Vertical interval timecode is always recorded by the *video* head during the vertical interval on tape.

## 8-5 Timecode Mode

The ACE 25 system displays timecode as hours/minutes/seconds/frames, and distinguishes between two timecode modes: non-drop frame and drop-frame. Non-drop frame timecode is displayed with colons as the unit of time separators (00:00:00:00), and drop-frame timecode is displayed with semicolons as the unit of time separators (00;00;00;00). The colons and semicolons are not integral parts of the electrical timecode signal, but are provided solely for operator convenience.

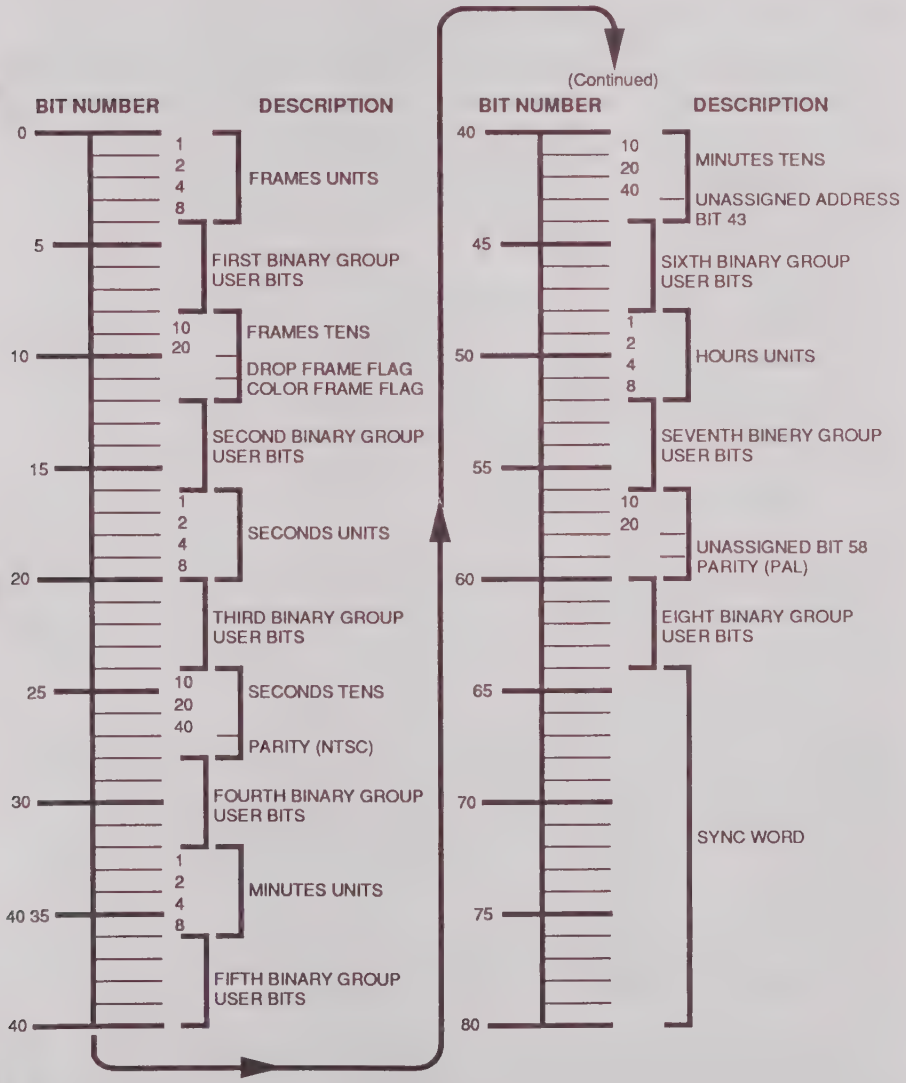



**Figure 8-1. SMPTE Longitudinal Timecode Word**

## 8-6 Non-drop Frame Timecode

Non-drop frame timecode is locked to the video frame rate, i.e., the timecode units-of-frames digit changes by one for every video frame. This connection introduces a slight inaccuracy, because the timecode counting mechanism assumes a video frame rate of 30 frames/second, when the actual video frame rate is 29.97 frames/second. Consequently, non-drop frame timecode runs slightly *slower* than actual time.

For example, if a non-drop frame timecode generator is set to start at midnight from a count of 00:00:00:00, twenty four hours later, it will only have reached a count of 23:58:33:18; it will be 1 minute, 26 seconds, and 12 frames slow. This inaccuracy prevents the use of non-drop frame code for applications such as precise timing of the run length of an edited show.

## 8-7 Drop Frame Timecode

Drop-frame timecode runs closer to actual time. Similar to non-drop frame timecode, drop-frame timecode also changes at the video frame rate of 29.97 frames/second rather than 30 frames/second. However, the count catches up with real time once every minute (except every tenth minute) by dropping (or skipping) two counts.

This is accomplished by dropping the "00" and "01" frames at the start of the new minute. For example, after a displayed count of 00;03;59;29, the next count is displayed as 00;04;00;02. The dropping process is not performed on the 0-, 10-, 20-, 30-, 40-, and 50-minute transitions in each hour. The net result is that drop-frame timecode is increased by a total of 108 frame counts per hour in order to agree with real time.

## 8-8 Recommended Timecode Practices

When using timecode for editing, each source tape must have sequentially ascending timecode numbers. This may require new timecode to be *jammed* (recorded over) the old timecode, particularly if the old timecode is incomplete or unreadable.

When dubbing timecode from a source tape to a work tape, avoid degradation of the timecode signal. Duplicate timecode using the output from a timecode generator slaved to the off-tape timecode; this records a fresh timecode locked to the source timecode. Note that dubbing is not a major problem with VITC since the code is part of the video signal. Copying longitudinal timecode from tape to tape causes timecode signal degradation. Typically, second generation timecode will be marginal at shuttle speeds that are above six times normal play speed, but will be readable at slower speeds. Third generation timecode reads unreliably even at play speed.

*Striping* tape consists of recording sequential timecode along with color black, to create tape with continuous timecode and control track. This is sometimes referred to as *base-blacking* a tape. Striping is required for insert editing.

The following are the four main VTR timecode generator modes from which to choose when generating, jamming, or striping timecode:

- Slave Mode

  In this mode, timecode generator is slaved to external timecode input. Use mode for dubbing to produce fresh and regenerated timecode.

- Jam Sync Mode

  In this mode, shortly before VTR goes into record, timecode generator is momentarily synchronized to match timecode already existing on source tape. Use mode to record continuous timecode on assemble edits and record over (jam) damaged or non-sequential sections of timecode on original tape.

- Internal Mode

  In this mode, timecode is generated internally by VTR, independent of another source. Use this mode for striping timecode.

- External Mode

  In this mode, output of internal timecode generator is bypassed, as timecode from external input source is recorded on tape. Do not use mode for dubbing.

Consider the following items when using timecode:

- Use ascending timecode; if timecode numbers descend between recorded segments, it is extremely difficult for system to find material and synchronize machines.
- Ensure that all components of editing system are driven from same sync generator.
- Keep all record and play heads on VTRs and ATRs clean.
- Keep record levels up. Record longitudinal timecode at as high a level as possible without introducing crosstalk. This level is normally +3 VU (check specifications on your VTRs to be sure). Avoid using audio-limiting or noise reduction on timecode track.
- Create written log of program material indexed by timecode for convenient reference.

## 8-9 COLOR FRAMING

Color framing refers to the matching of two (or more) video sources to the same SCH (video subcarrier-to-horizontal sync) phase relationship. ACE 25 produces edits that match the color frame of one source with the color frame of the previous source.

In the NTSC television standard, the SCH relationship changes by 180° every video frame (two fields). It takes two consecutive frames (four fields) to form an NTSC color frame, and for the subcarrier-to-sync relationship to repeat.

In the PAL television standard, two patterns occur:

- SCH relationship changes by 90° every frame (two fields).
- Phase of subcarrier burst alternates every line and forms a PAL frame pair.

When these two patterns are combined, it requires *four* frames for both patterns to repeat, forming one PAL color frame (eight fields).

To make edits with minimum picture disturbances, new video material should continue the color frame sequence unbroken. Most VTRs contain a color framer, which matches off-tape color pattern to reference video pattern. If the color framers in both the record VTR and the source VTR are turned on, all edits made on the record VTR would be in the correct color frame. However, it would be impossible to cut between any frame to any other frame, and edit points would be limited. In NTSC, an error of one frame is possible and in PAL, errors of one, two, or three frames could occur between the desired frame and the next correct color sequence frame. Such errors often produce unacceptable picture disturbance.

For certain types of video editing, particularly "cuts-only," this accuracy is acceptable. To achieve color framing, it might be necessary to move the edit by one frame for NTSC, or up to three frames for PAL.

The ACE 25 provides a system accuracy parameter for defining the accuracy of edits within a maximum of three frames. The system attempts to color frame the edit within the operator-specified window, and displays a warning message

if it cannot. The system can "learn" the color phase of source tapes by rolling a short segment and determining if the relationship of color-frame sequence to timecode is normal (Phase A for NTSC; Standard A for PAL), or not normal (Phase B for NTSC; Standard B, Non-Standard A or Non-Standard B for PAL). Tape must have good timecode for the system to determine the color frame pattern correctly.

Once you follow the CF learn procedure, and let ACE 25 determine the tape's phase, the system can assist you with a "shift-free" edit session. In System Initialization menus, with CF checking turned on to four-field in NTSC, four-field or eight-field in PAL, ACE 25 will generate error messages on the CRT notifying you that the edit is not color framed, and ask you to adjust the color frame.

## 8-10 ACE 25 SOFT KEY MENU TREE

Figure 8-2 depicts the complete "tree" of the ACE 25 soft key menus. Menus are arranged according to their functional groupings and associated "branches," such as "Edit Construction menus," "Transport Color Frame menus," and "Audio Switcher menus." Each grouping is enclosed in a box and labeled accordingly on the outside, top left corner of box.

Shading is used to separate soft key menus within a functional group. Directly above each soft key menu, Figure 8-2 displays the appropriate prompt line that appears on the CRT with that menu. The data above the prompt line and below the shaded line is provided for your reference only, and represents the following:

- Number in rectangular box in top left corner below shaded area assigns each soft key menu a number, designated in sequential order. This is the number to which "Go to" number (see last bullet below) refers.
- "Name" line identifies each menu by its proper name.
- "Access Via" line shows sequence of hard and soft keys used to access menu. Hard keys are indicated in plain-faced CAPITALS, and soft keys are indicated in boldfaced **CAPITALS**.

  Certain menus (e.g., menu number 9, Audio Switcher Function Choice menu) list various sequences of hard and soft keys by which menus are accessed. In case of menu number 9, menu can be brought up by either pressing HOME, **AUDIO SWITCHER**, or HOME, **VIDEO SWITCHER, AUDIO CONTROL.**

  Certain "Access Via" lines (e.g., menu number 21, One, Group, All Menu) parenthetically list various soft keys that can be pressed with the leading hard keys and soft keys to access menus. In case of menu number 21, "EDL, (**CLEAN TAILS; RIPPLE; SLIDE**)" means that you can press EDL, **CLEAN TAILS**, or EDL, **RIPPLE** or EDL, **SLIDE** to access the One, Group, All Menu; and "EDL, **MORE (COPY BEFORE; COPY AFTER; DELETE)**" means that you can press EDL, **MORE, COPY BEFORE**, or EDL, **MORE, COPY AFTER**, or EDL, **MORE, DELETE** to access same menu.

- Number(s) appearing below certain soft key boxes refers to menu number, mentioned above in first bullet. This is a "Go to" number, indicating soft key menu (or branch of main menu) to which you go when that specific soft key is pressed. A listing of more than one number under a soft key indicates that more than one menu can be accessed from that soft key. This occurs because there is often more than one pathway leading to a soft key menu.

  Examples:

  On menu number 1 (Edit Construction Menu 1) number 2 shown under **MORE** means that pressing **MORE** immediately brings up soft key menu number 2 (Edit Construction Menu 2); number 3 shown under **TAGS & SLIDES** means that pressing **TAGS & SLIDES** immediately brings up soft key menu number 3 (Tag menu); etc.

  On menu number 6 (Transport Control menu), numbers 7 and 8 shown under **COLOR FRAMING** mean that pressing **COLOR FRAMING** immediately brings up soft key menu numbers 7 (Color Frame Choice menu, NTSC) or 8 (Color Frame Choice menu, PAL).

As you refer to Figure 8-2 and utilize the information it provides, you will quickly gain familiarity with the flow of the soft key menu tree and its branches, and easily learn to locate soft keys throughout the system.

## EDIT CONSTRUCTION MENUS

**1** — **Name:** Edit Construction Menu 1
**Access Via:** HOME

Edit Construction Menu 1: >

| RECALL EDIT | NEXT | TAGS & SLIDES 3 | COLOR FR ADJUST | PICK PUT 4 | AUDIO SWITCHER 9 | VIDEO SWITCHER 12 | MORE 2 |
|---|---|---|---|---|---|---|---|

**2** — **Name:** Edit Construction Menu 2
**Access Via:** HOME, **MORE**

Edit Construction Menu 2: >

| EDIT NUMBER | DELETE LINE | FILL | DISPLAY CHANGE 5 | TRANSPRT 6 | REEL NUMBER | SLO MO SPEED | MORE 1 |
|---|---|---|---|---|---|---|---|

**3** — **Name:** Tag Menu
**Access Via:** HOME, **TAG**

Select a Tag function or Slide Src <A>: >

| EDL TAG | REEL TAG | SOURCE TAG | SYNC TAG | SPLIT SLIDE | | | RETURN 1 |
|---|---|---|---|---|---|---|---|

**4** — **Name:** Pick/Put Menu
**Access Via:** HOME, **PICK/PUT**

Select item to be picked from current EDL line: >

| SOURCE ENTRY | SOURCE EXIT | RECORD ENTRY | RECORD EXIT | COPY GPI | COPY EDIT | FIND 22 | RETURN 1 |
|---|---|---|---|---|---|---|---|

**5** — **Name:** Display Change Choice Menu
**Access Via:** HOME, **MORE, DISPLAY CHANGE**

Select new display option: >

| NORMAL | EFFECTS | AUDIO | | | | | RETURN 2 |
|---|---|---|---|---|---|---|---|

## TRANSPORT AND COLOR FRAME MENUS

**6** — **Name:** Transport Control Menu
**Access Via:** HOME, **MORE, TRANSP**

Choose a function to perform on selected transport: >

| COLOR FRAMING 7 8 | CASSETTE EJECT | LOAD TIMER | VITC/LTC |
|---|---|---|---|

**7** — **Name:** Color Frame Choice Menu
**Access Via:** HOME, **MORE, TRANSP**

Choose a Color Frame function to perform on the selec

| COLOR FR LEARN | PHASE A | PHASE B | |
|---|---|---|---|

**8** — **Name:** Color Frame Choice Menu
**Access Via:** HOME, **MORE, TRANSP**

Choose a Color Frame function to perform on the selec

| COLOR FR LEARN | STANDARD A | STANDARD B | |
|---|---|---|---|

## AUDIO SWITCHER MENUS

**9** — **Name:** Audio Switcher Function C
**Access Via:** HOME, **AUDIO SWITCH**
HOME, **VIDEO SWITCH**

Choose an Audio Switcher function to adjust: >

| INPUT LEVEL | M/E FADER | DS FADE SILENT | EQ SETTING 10 |
|---|---|---|---|

**10** — **Name:** Equalization Choice Menu
**Access Via:** HOME, **AUDIO SWITCH**

Choose an equalization range to adjust: >

| LOW 100 HZ | MID 1 KHZ | HIGH 10 KHZ | FLAT RESPONS |
|---|---|---|---|

## PREVIEW MENU

**11** — **Name:** Preview Modes Menu
**Access Via:** PREVIEW MODES

Choose a preview: >

| BVB | VBV | ENTRY ONLY | EXIT ONLY |
|---|---|---|---|

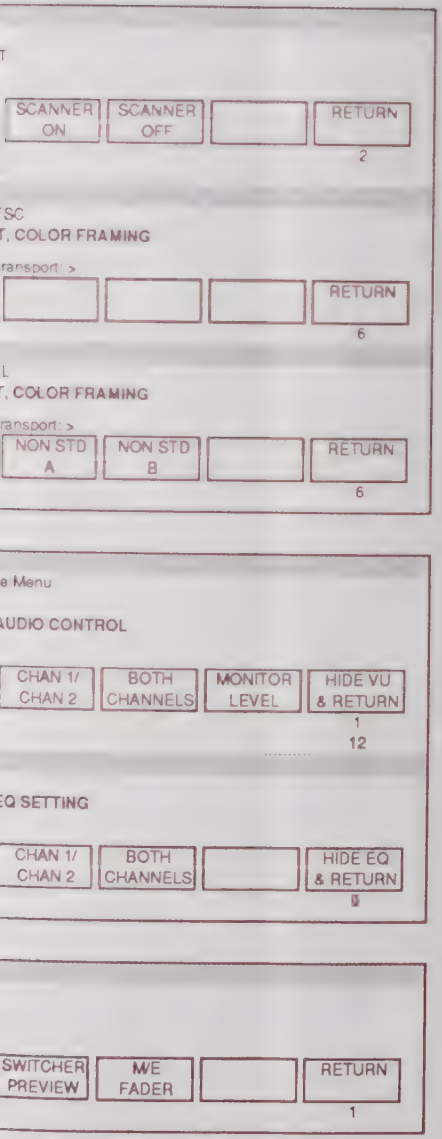



**Figure 8-2.**
**ACE 25 Soft Key Tree (Sheet 1 of 8)**

- Number(s) appearing below certain soft key boxes refers to menu number, mentioned above in first bullet. This is a "Go to" number, indicating soft key menu (or branch of main menu) to which you go when that specific soft key is pressed. A listing of more than one number under a soft key indicates that more than one menu can be accessed from that soft key. This occurs because there is often more than one pathway leading to a soft key menu.

  Examples:

  On menu number 1 (Edit Construction Menu 1) number 2 shown under **MORE** means that pressing **MORE** immediately brings up soft key menu number 2 (Edit Construction Menu 2); number 3 shown under **TAGS & SLIDES** means that pressing **TAGS & SLIDES** immediately brings up soft key menu number 3 (Tag menu); etc.

  On menu number 6 (Transport Control menu), numbers 7 and 8 shown under **COLOR FRAMING** mean that pressing **COLOR FRAMING** immediately brings up soft key menu numbers 7 (Color Frame Choice menu, NTSC) or 8 (Color Frame Choice menu, PAL).

As you refer to Figure 8-2 and utilize the information it provides, you will quickly gain familiarity with the flow of the soft key menu tree and its branches, and easily learn to locate soft keys throughout the system.

## VIDEO SWITCHER MENUS

**12** — **Name:** Video Switcher Function Choice Menu
**Access Via:** HOME, **VIDEO SWITCHER**

Choose a Video Switcher function to adjust: >

| AUDIO CONTROL | VIDEO FADERS | WIPE PARAMS | EFFECT DURATION | FADER START | FADER END | KEY PARAMS | RETURN |
|---|---|---|---|---|---|---|---|
| 9 | 13 | 89 | | | | 94 | 1 |

**13** — **Name:** Video Fader Choice Menu
**Access Via:** HOME, **VIDEO SWITCHER, VIDEO FADERS**

Select Video FADER type: >

| M/E FADER | KEY FADER | DSK FADER | EFFECT DURATION | DS BLACK FADER | FADER START | FADER END | RETURN |
|---|---|---|---|---|---|---|---|
| | | | | | | | 12 |

## CONFLICT MENU

**14** — **Name:** Conflict Menu
**Access Via:** Any ECL Source / Record duration conflict.

Src vs Rec Duration Conflict. Select Option: >

| RECALC SRC IN | RECALC SRC OUT | RECALC REC IN | RECALC REC OUT | RECALC SPEED | | | CANCEL |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | | | 1 |

## SEARCH MENU

**15** — **Name:** Search Menu
**Access Via:** SRCH

Select a search function: >

| SEARCH ENTRY | SEARCH EXIT | CUE TO PREROLL | | | | | RETURN |
|---|---|---|---|---|---|---|---|
| | | | | | | | 1 |

## ADVANCED CONSTANTS MENU

**16** — **Name:** Advanced Constants Menu
**Access Via:** SHIFT + CONST

Select a constant from the list. Any other key returns: >

| : : : | : : : | : : : | : : : | : : : | : : : | : : : | : : : |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

## CONFIRM MENU

**17** — **Name:** Confirm Menu
**Access Via:** Any ECL / EDL operation which changes list or disk.

Please confirm this operation: >

| CONFIRM | | | | | | | CANCEL |
|---|---|---|---|---|---|---|---|
| 1<br>18<br>48 | | | | | | | 1<br>18 |

## EDIT DECISION LIST MENUS

**18** — **Name:** EDL Menu 1
**Access Via:** EDL

EDL/List Management Menu 1: >

| MARK FIRST | MARK LAST | CLEAN TAILS | RI |
|---|---|---|---|
| | | 21 | |

**19** — **Name:** EDL Menu 2
**Access Via:** EDL, **MORE**

EDL/List Management Menu 2: >

| COPY BEFORE | COPY AFTER | MOVE BEFORE | M AF |
|---|---|---|---|
| 21 | 21 | 21 | |

**20** — **Name:** EDL Menu 3
**Access Via:** EDL, **MORE, MO**

EDL/List Management Menu 3: >

| SET RECORDED | CLEAR RECORDED | CHANGE REEL # | |
|---|---|---|---|
| 21 | 21 | 24 | |

**21** — **Name:** One, Group, All Mer
**Access Via:** EDL, **(CLEAN TA**
EDL, **MORE, (CO**
EDL, **MORE, (MO**
EDL, **MORE, MO**
EDL, **MORE, MO**
EDL, **FILE I/O, W**
EDL, **FILE I/O, P**

Perform action on one edit, group of edits, or all e

| ONE | GROUP | ALL | |
|---|---|---|---|
| 17<br>27<br>29 | 17<br>27<br>29 | 17<br>27<br>29 | |

**22** — **Name:** Find Menu
**Access Via:** HOME, **PICK/PUT,**
EDL, **FIND**

Find position in list, edit #, Src < > timecode, or r

| EDL TOP | EDL BOTTOM | FIRST | LA |
|---|---|---|---|
| | | | |

**23** — **Name:** Auto Assembly Cont
**Access Via:** EDL, PERFORM ED

Auto assembly control options: >

| PAUSE AUTOASSY | SKIP EDIT | CONTINUE AUTOASSY | AB AUTO |
|---|---|---|---|
| | | | |

**24** — **Name:** Change Reel Numbe
**Access Via:** EDL, **MORE, MO**

Enter reel # to change FROM ( ), reel # to change

| CHANGE FROM | CHANGE TO | PERFORM CHANGE | |
|---|---|---|---|
| | | 21 | |

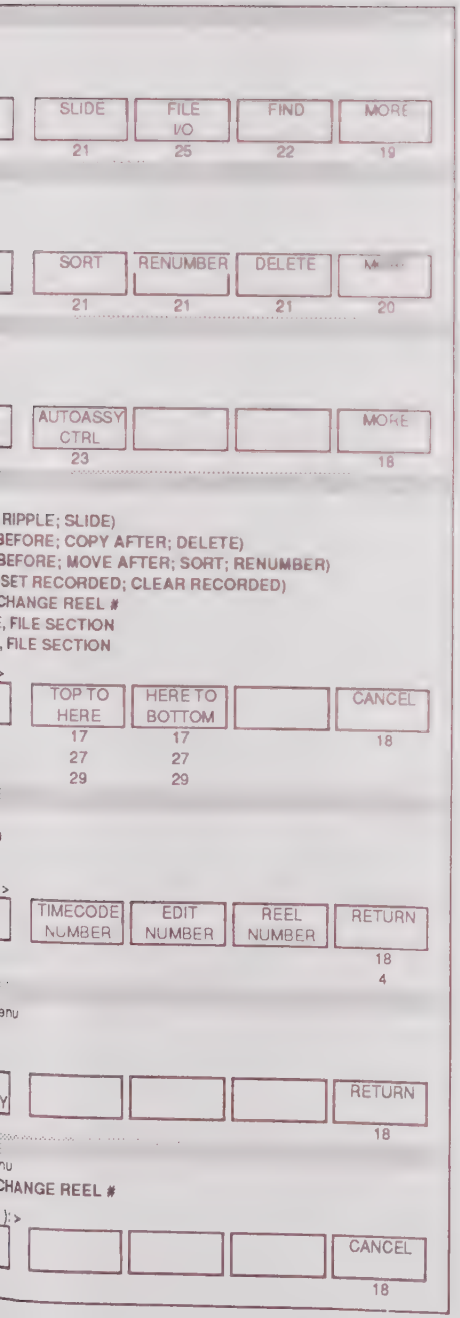



**Figure 8-2.**
**ACE 25 Soft Key Tree (Sheet 2 of 8)**

**Note:** For all following EDL Read, Write, Remove, Print, Copy, Transmit, and Receive menus, the soft keys CMX[N] .340 and ACE[N] .EDL are interchangeable.

CMX[N].340 appears if CMX format is selected, ACE[N].EDL appears if SMPTE format is selected. For this chart, SMPTE format is used.

**25** **Name:** EDL File I/O Choice Menu
**Access Via:** EDL, **FILE I/O**

Choose a File I/O function: >

| READ | WRITE | REMOVE | PRINT | COPY | TRANSMIT | RECEIVE | RETURN |
|---|---|---|---|---|---|---|---|
| 26 | 27 | 28 | 29 | 30 | 31 | 32 | 18 |

**26** **Name:** EDL File I/O Read Menu
**Access Via:** EDL, **FILE I/O, READ**

Choose a file or change a parameter: >

| PERFORM READ | FILE NUMBER | ACE[N] .EDL | | FILE FORMAT | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 18 | 18 | 18 | | 33 | | | 25 |

**27** **Name:** EDL File I/O Write Menu
**Access Via:** EDL, **FILE I/O, WRITE**

Choose a file or change a parameter: >

| PERFORM WRITE | FILE NUMBER | ACE[N] .EDL | FILE SECTION | FILE FORMAT | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 17 | 17 | 17 | 21 | 33 | | | 25 |

**28** **Name:** EDL File I/O Remove Menu
**Access Via:** EDL, **FILE I/O, REMOVE**

Choose a file or change a parameter: >

| PERFORM REMOVE | FILE NUMBER | ACE[N] .EDL | | FILE FORMAT | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 17 | 17 | 17 | | 33 | | | 25 |

**29** **Name:** EDL File I/O Print Menu
**Access Via:** EDL, **FILE I/O, PRINT**

Choose a file or change a parameter: >

| PERFORM PRINT | FILE NUMBER | ACE[N] .EDL | FILE SECTION | FILE FORMAT | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 17 | 17 | 17 | 21 | 33 | | | 25 |

**30** **Name:** EDL File I/O Copy Menu
**Access Via:** EDL, **FILE I/O, COPY**

Choose a file or change a parameter: >

| CHANGE TO | FILE NUMBER | ACE[N] .EDL | | FILE FORMAT | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 17 | 17 | 17 | | 33 | | | 25 |



**31** **Name:** EDL File I/O Transmit Menu
**Access Via:** EDL, **FILE I/O, TRANSM**

Choose a file or change a parameter: >

| PERFORM TRANSMIT | FILE NUMBER | ACE[N] .EDL | |
|---|---|---|---|
| 17 | 17 | 17 | |

**32** **Name:** EDL File I/O Receive Menu
**Access Via:** EDL, **FILE I/O, RECEIV**

Choose a file or change a parameter: >

| PERFORM RECEIVE | FILE NUMBER | ACE[N] .EDL | |
|---|---|---|---|
| 17 | 17 | 17 | |

**33** **Name:** EDL Format Selection Menu
**Access Via:** EDL, **FILE I/O, (READ;**
EDL, **FILE I/O, (COPY;**

Select list format: >

| SMPTE | CMX-340 | | |
|---|---|---|---|
| 26 | 26 | | |
| 27 | 27 | | |
| 28 | 28 | | |
| 29 | 29 | | |
| 30 | 30 | | |
| 31 | 31 | | |
| 32 | 32 | | |

**34** **Name:** Serial I/O Control Menu
**Access Via:** EDL, **FILE I/O, (PRINT;**

Select input/output control: >

| | | | HALT SERIAL |
|---|---|---|---|

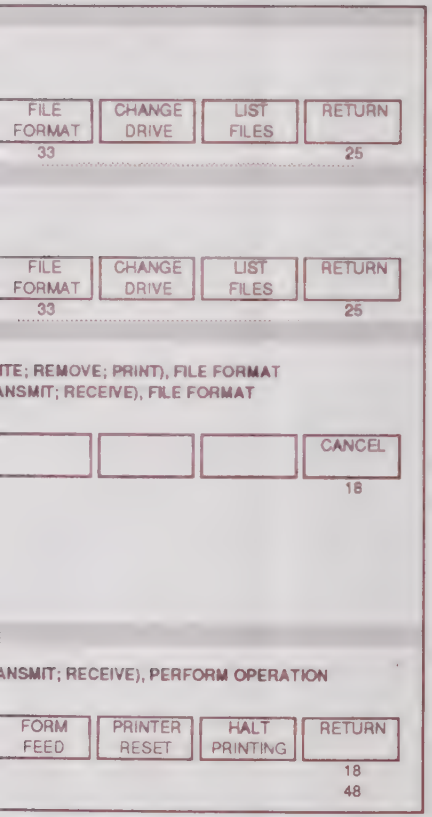



**Figure 8-2.**
**ACE 25 Soft Key Tree (Sheet 3 of 8)**

## CONFIGURATION FILE I/O MENUS

**35** — **Name:** Configuration File I/O Choice Menu
**Access Via:** SYS INIT, **CONFIG FILES**

Choose a File I/O function: >

| READ | WRITE | REMOVE | PRINT | COPY | TRANSMIT | RECEIVE | RETURN |
|---|---|---|---|---|---|---|---|
| 36 | 37 | 38 | 39 | 40 | 41 | 42 | 48 |

**36** — **Name:** Configuration File I/O Read Menu
**Access Via:** SYS INIT, **CONFIG FILES, READ**

Choose a file or change a parameter: >

| PERFORM READ | FILE NUMBER | USER[N] .CFG | DEFAULT .CFG | | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 48 | 48 | 48 | 48 | | | | 35 |

**37** — **Name:** Configuration File I/O Write Menu
**Access Via:** SYS INIT, **CONFIG FILES, WRITE**

Choose a file or change a parameter: >

| PERFORM WRITE | FILE NUMBER | USER[N] .CFG | DEFAULT .CFG | | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 17 | 17 | 17 | 17 | | | | 35 |

**38** — **Name:** Configuration File I/O Remove Menu
**Access Via:** SYS INIT, **CONFIG FILES, REMOVE**

Choose a file or change a parameter: >

| PERFORM REMOVE | FILE NUMBER | USER[N] .CFG | DEFAULT .CFG | | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 17 | 17 | 17 | 17 | | | | 35 |

**39** — **Name:** Configuration File I/O Print Menu
**Access Via:** SYS INIT, **CONFIG FILES, PRINT**

Choose a file or change a parameter: >

| PERFORM PRINT | FILE NUMBER | USER[N] .CFG | DEFAULT .CFG | | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 17 | 17 | 17 | 17 | | | | 35 |

**40** — **Name:** Configuration File I/O Copy Menu
**Access Via:** SYS INIT, **CONFIG FILES, COPY**

Choose a file or change a parameter: >

| CHANGE TO | FILE NUMBER | USER[N] .CFG | DEFAULT .CFG | | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 17 | 17 | 17 | 17 | | | | 35 |

**41** — **Name:** Configuration File I/O Transmit Menu
**Access Via:** SYS INIT, **CONFIG FILES, TRANSMIT**

Choose a file or change a parameter: >

| PERFORM TRANSMIT | FILE NUMBER | USER[N] .CFG | DEFAULT .CFG | | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 17 | 17 | 17 | 17 | | | | 35 |

**42** — **Name:** Configuration File I/O Receive Menu
**Access Via:** SYS INIT, **CONFIG FILES, RECEIVE**

Choose a file or change a parameter: >

| PERFORM RECEIVE | FILE NUMBER | USER[N] .CFG | DEFAULT .CFG | | CHANGE DRIVE | LIST FILES | RETURN |
|---|---|---|---|---|---|---|---|
| 17 | 17 | 17 | 17 | | | | 35 |

## MANUAL CONTROL MENUS

**43** — **Name:** Manual Mod
**Access Via:** MAN

Select a manual control mode: >

| AUDIO LEVEL | FADER CONTROL | TRANSPRT CONTROL |
|---|---|---|
| 44 | 46 | |

**44** — **Name:** Manual Audi
**Access Via:** MAN, **AU**

Select channel(s) for manual audio level c

| | A1 TOGGLE | A2 TOGGLE |
|---|---|---|

**45** — **Name:** Manual Fade
**Access Via:** MAN, **FA**
MAN, **FA**

Select channel(s) for manual fader control

| VIDEO TOGGLE | A1 TOGGLE | A2 TOGGLE |
|---|---|---|

**46** — **Name:** Manual Fade
**Access Via:** MAN, **FA**

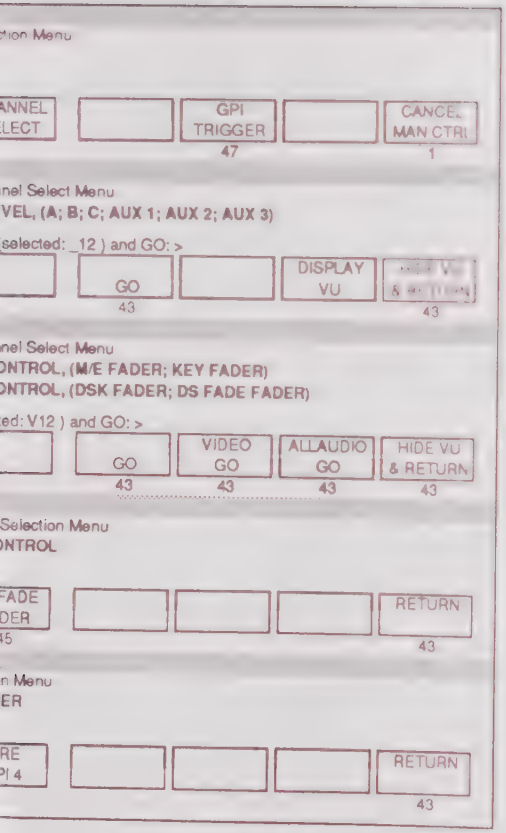
Select a fader type for manual control: >

| ME FADER | KEY FADER | DSK FADER |
|---|---|---|
| 45 | 45 | 45 |

**47** — **Name:** Manual GPI S
**Access Via:** MAN, **GPI**

Press softkey to fire off the GPI trigger: >

| FIRE GPI 1 | FIRE GPI 2 | FIRE GPI 3 |
|---|---|---|



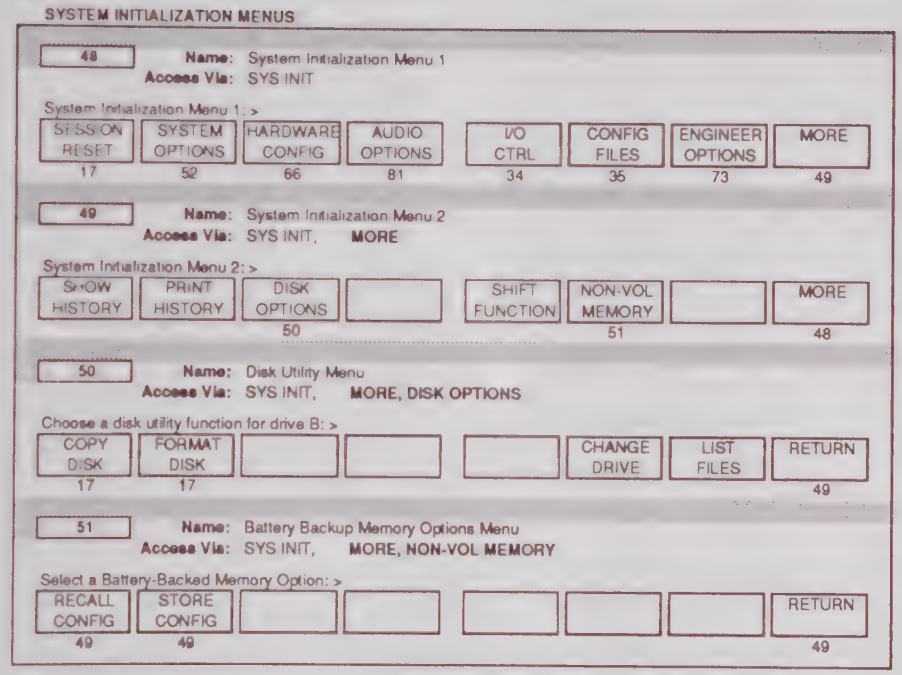




**Figure 8-2.**
**ACE 25 Soft Key Tree (Sheet 4 of 8)**

52 **Name:** Enter Timecode Menu
**Access Via:** SYS INIT, **SYSTEM OPTIONS, (Scroll),**
Menu lines: Program Start, Program Length

Enter timecode using keypad, then press ENTER: >

| ENTER TIMECODE | | | | | | | RETURN |
|---|---|---|---|---|---|---|---|

48

53 **Name:** Enter Time Menu
**Access Via:** SYS INIT, **SYSTEM OPTIONS, (Scroll),**
Menu line: Time of Day

Enter timecode using keypad, then press ENTER: >

| ENTER TIME | | | | | | | RETURN |
|---|---|---|---|---|---|---|---|

48

54 **Name:** Enter Month, Day, Year Menu
**Access Via:** SYS INIT, **SYSTEM OPTIONS, (Scroll),**
Menu line: Date

Enter new value using keypad, then press ENTER: >

| ENTER MONTH | ENTER DATE | ENTER YEAR | | | | | RETURN |
|---|---|---|---|---|---|---|---|

48

55 **Name:** Enter Name Menu
**Access Via:** SYS INIT, **SYSTEM OPTIONS, (Scroll),**
Menu lines: Facility Name, Editor, Edit Suite

Type new name using comments keyboard. Press ENTER when done. >

| ENTER NEW NAME | RESTORE OLD NAME | CLEAR NAME | | | | | RETURN |
|---|---|---|---|---|---|---|---|

48

56 **Name:** Enter New Number Menu
**Access Via:** SYS INIT, **SYSTEM OPTIONS, (Scroll),**
Menu lines: System Accuracy, Reaction Time

Enter new value using keypad, then press ENTER: >

| ENTER NEW NUM | | | | | | | |
|---|---|---|---|---|---|---|---|

48

57 **Name:** Select On or Off Menu
**Access Via:** SYS INIT, **SYSTEM OPTIONS, (Scroll),**
Menu lines: Auto Sort, Auto Clean, Auto Print, Position Editing

Select ON or OFF for this option: >

| ON | OFF | | | | | | RETURN |
|---|---|---|---|---|---|---|---|

48

58 **Name:** Select System Reference Menu
**Access Via:** SYS INIT, **SYSTEM OPTIONS, (Scroll),**
Menu line: System Reference

Is the system video reference component or composite? >

| | | | | CMPONENT VIDEO | CMPOSITE VIDEO | | RETURN |
|---|---|---|---|---|---|---|---|

48





59 **Name:** Select Insert / Assemble Me
**Access Via:** SYS INIT, **SYSTEM OP**
Menu line: In

Choose editing mode: >

| | | | |
|---|---|---|---|

60 **Name:** Select Edit Field Menu
**Access Via:** SYS INIT, **SYSTEM OP**
Menu line: Ed

Select field to edit on: >

| | | | |
|---|---|---|---|

61 **Name:** Select Color Frame Marking
**Access Via:** SYS INIT, **SYSTEM OP**
Menu line: Cl

Choose mark color frame adjustment: >

| 2 FIELD NO CF | 4 FIELD CF ON | | |
|---|---|---|---|

62 **Name:** Select Color Frame Marking
**Access Via:** SYS INIT, **SYSTEM OP**
Menu line: Cl

Choose mark color frame adjustment: >

| 2 FIELD NO CF | 4 FIELD PAL PAIR | 8 FIELD CF ON | |
|---|---|---|---|

63 **Name:** Select Color Frame Checkin
**Access Via:** SYS INIT, **SYSTEM OP**
Menu line: Cl

Select System Color Framing: >

| 2 FIELD NO CF | 4 FIELD CF ON | | |
|---|---|---|---|

64 **Name:** Select Color Frame Checkin
**Access Via:** SYS INIT, **SYSTEM OP**
Menu line: Cl

Select System Color Framing: >

| 2 FIELD NO CF | 4 FIELD PAL PAIR | 8 FIELD CF ON | |
|---|---|---|---|

65 **Name:** Select Preroll / Postroll Men
**Access Via:** SYS INIT, **SYSTEM OP**
Menu lines: P

Enter timecode using keypad, then press ENTER: >

| | | | |
|---|---|---|---|

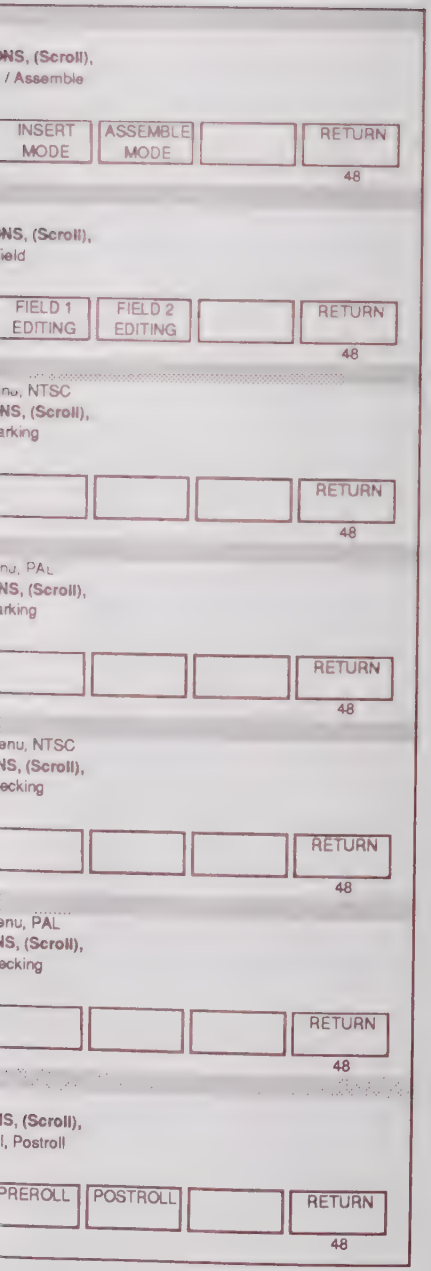
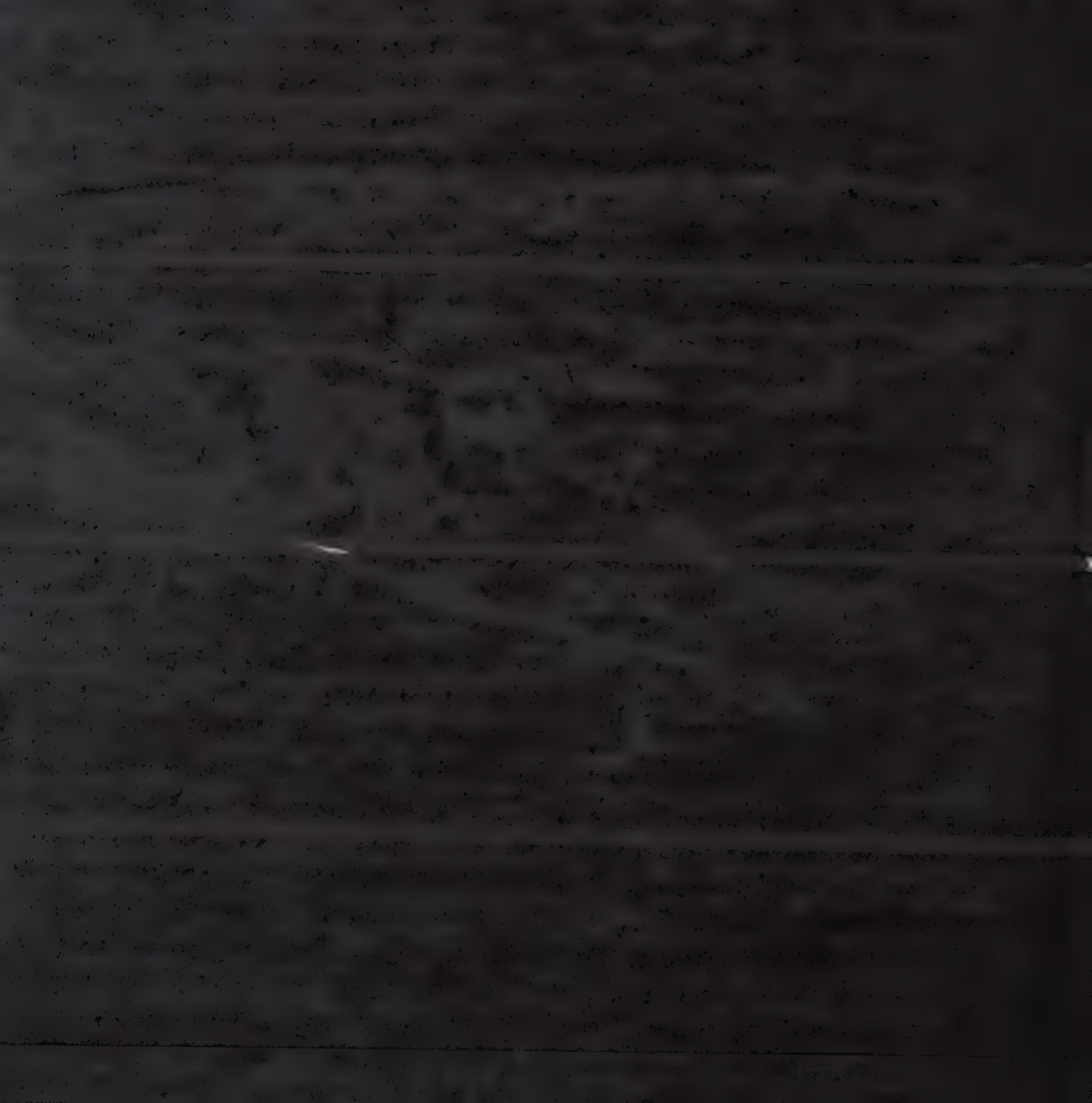



**Figure 8-2.**
**ACE 25 Soft Key Tree (Sheet 5 of 8)**



## HARDWARE OPTIONS MENUS

**66** **Name:** Select Transport / Switcher Menu
**Access Via:** SYS INIT, **HARDWARE CONFIG, (Scroll),**
Menu line: Any available ILC Channel

Choose a device type: >

| TRANSPRT | SWITCHER | | | | | | RETURN |
|---|---|---|---|---|---|---|---|
| 67 | 71 | | | | | | 48 |

**67** **Name:** Select Transport Configuration Menu
**Access Via:** SYS INIT, **HARDWARE CONFIG, (Scroll),**
Menu line: Any ILC channel with transport

Choose a transport configuration: >

| NO TRANSPRT | AMPEX PROTOCOL | SONY PROTOCOL | | TRANSPRT LETTER | XPOINTS | TIMECODE TYPE | RETURN |
|---|---|---|---|---|---|---|---|
| | | | | 68 | 69 | 70 | 66, 48 |

**68** **Name:** Select Transport Letter Menu
**Access Via:** SYS INIT, **HARDWARE CONFIG, (Scroll),**
Menu line: Any ILC channel with transport, **TRANSPORT LETTER**

Choose the letter for this transport: >

| NONE | R | A | B | C | | | RETURN |
|---|---|---|---|---|---|---|---|
| 67 | 67 | 67 | 67 | 67 | | | 67 |

**69** **Name:** Select Crosspoint Menu
**Access Via:** SYS INIT, **HARDWARE CONFIG, (Scroll),**
Menu line: Any ILC channel with transport, **XPOINTS**

Enter audio or video crosspoints: >

| VIDEO XPOINT | AUDIO XPOINT | TONE | | | | | RETURN |
|---|---|---|---|---|---|---|---|
| | | | | | | | 67 |

**70** **Name:** Select Timecode Type Menu
**Access Via:** SYS INIT, **HARDWARE CONFIG, (Scroll),**
Menu line: Any ILC channel with transport, **TIMECODE TYPE**

Choose the type of timecode to use for this transport: >

| LTC | VITC | TT-1 | | | | | RETURN |
|---|---|---|---|---|---|---|---|
| 67 | 67 | 67 | | | | | 67 |

**71** **Name:** Choose Switcher Type Menu
**Access Via:** SYS INIT, **HARDWARE CONFIG, (Scroll),**
Menu line: Any ILC channel with Switcher

Choose a switcher type: >

| NO SWITCHER | AMPEX PENGUIN | AMPEX VISTA | GVG-100 | AMX-100 | AMX-170 | | RETURN |
|---|---|---|---|---|---|---|---|
| | | | | | | | 48, 66 |

**72** **Name:** Choose Internal Switcher Menu
**Access Via:** SYS INIT, **HARDWARE CONFIG, (Scroll),**
Menu line: Int Audio Switcher, Int Video Switcher

Choose internal switcher(s) to use: >

| NO SWITCHER | INTERNAL AUDIO | INTERNAL VIDEO | | | | | RETURN |
|---|---|---|---|---|---|---|---|
| | | | | | | | 48, 56 |

## ENGINEERING OPTIONS MENUS

**73** **Name:** Select Engineering
**Access Via:** SYS INIT, **ENG**

Select an Engineering Option: >

| S/W VERSION | INSTALLD OPTIONS | | GI CO |
|---|---|---|---|
| | | | 74 |

**74** **Name:** Select File Transfer
**Access Via:** SYS INIT, **ENG**
Menu

Choose port for the file transfer: >

| SERIAL 1 | SERIAL 2 | NONE | |
|---|---|---|---|

**75** **Name:** Choose GPI Pulse
**Access Via:** SYS INIT, **ENG**
Menu

Enter pulse duration for GPI: >

| GPI PULSE | | | |
|---|---|---|---|

**76** **Name:** Select Printer Port
**Access Via:** SYS INIT, **ENG**
Menu

Choose port for the printer: >

| PARALLEL | SERIAL 1 | SERIAL 2 | NO |
|---|---|---|---|

**77** **Name:** Select Baud Rate
**Access Via:** SYS INIT, **ENG**
Menu

Choose baud rate for serial port 1: >

| 110 | 300 | 600 | 12 |
|---|---|---|---|

**78** **Name:** Select Parity Menu
**Access Via:** SYS INIT, **ENGI**
Menu

Choose parity for serial port 1: >

| NONE | ODD | EVEN | |
|---|---|---|---|

**79** **Name:** Select Stop Bits Men
**Access Via:** SYS INIT, **ENGI**
Menu

Choose number of stop bits for serial port 1: >

| 1 BIT | 2 BITS | | |
|---|---|---|---|

**80** **Name:** Select Word Length
**Access Via:** SYS INIT, **ENGI**
Menu

Choose word length for serial port 1: >

| 7 BITS | 8 BITS | | |
|---|---|---|---|

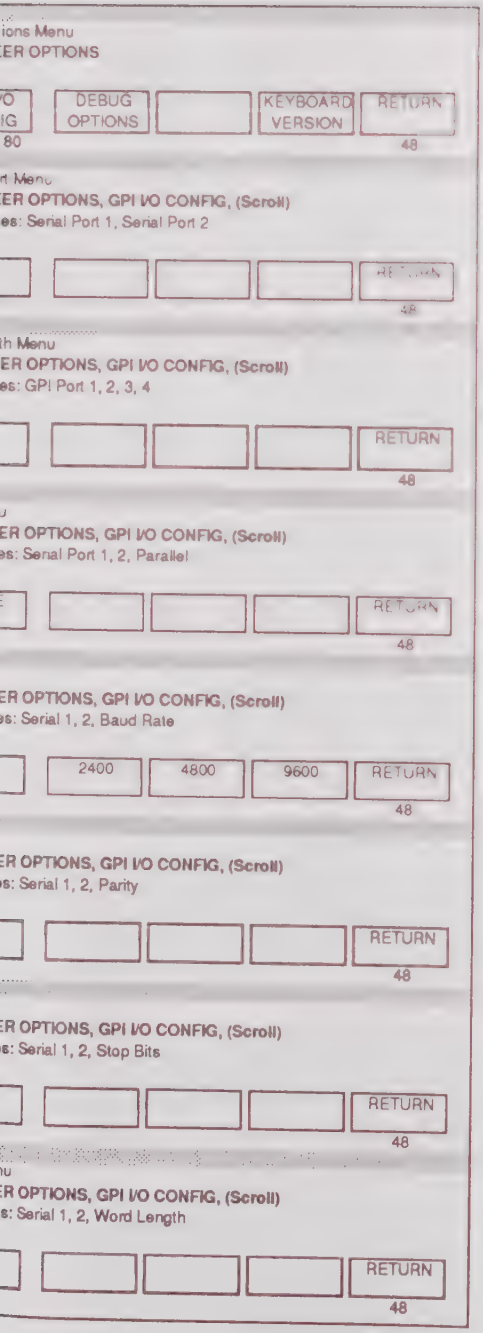

ions Menu
ER OPTIONS
DEBUG OPTIONS
KEYBOARD VERSION
RETURN
48
ER OPTIONS, GPI I/O CONFIG, (Scroll)
es: Serial Port 1, Serial Port 2
ER OPTIONS, GPI I/O CONFIG, (Scroll)
es: GPI Port 1, 2, 3, 4
RETURN
48
ER OPTIONS, GPI I/O CONFIG, (Scroll)
es: Serial Port 1, 2, Parallel
ER OPTIONS, GPI I/O CONFIG, (Scroll)
s: Serial 1, 2, Baud Rate
2400
4800
9600
ER OPTIONS, GPI I/O CONFIG, (Scroll)
s: Serial 1, 2, Parity
ER OPTIONS, GPI I/O CONFIG, (Scroll)
s: Serial 1, 2, Stop Bits
ER OPTIONS, GPI I/O CONFIG, (Scroll)
s: Serial 1, 2, Word Length

**Figure 8-2.**
**ACE 25 Soft Key Tree (Sheet 6 of 8)**

## AUDIO OPTIONS MENUS

**81** — **Name:** Select Aux 2 Mic / Line Menu
**Access Via:** SYS INIT, **AUDIO OPTIONS, (Scroll)**
Menu line: Aux 1 Mic / Line

Select Mic or Line input for Aux1: >

| | | | | MIC INPUT | LINE INPUT | | RETURN |
|---|---|---|---|---|---|---|---|
| | | | | | | | 48 |

**82** — **Name:** Select Monitor Menu
**Access Via:** SYS INIT, **AUDIO OPTIONS, (Scroll)**
Menu line: Monitoring Point

Select internal or external monitor: >

| | | | | EXTERNAL MONITOR | INTERNAL MONITOR | | RETURN |
|---|---|---|---|---|---|---|---|
| | | | | | | | 48 |

**83** — **Name:** Select Mic Pad Menu
**Access Via:** SYS INIT, **AUDIO OPTIONS, (Scroll)**
Menu line: Mic Pad

Select Mic pad: >

| | | | | MIC PAD -40dB | MIC PAD -40dB | | RETURN |
|---|---|---|---|---|---|---|---|
| | | | | | | | 48 |

**84** — **Name:** Select Input Pad Menu
**Access Via:** SYS INIT, **AUDIO OPTIONS, (Scroll)**
Menu lineS: VTR A, B, C, Aux 1, 2, 3, Monitor, Output

Select pads: >

| CH1 REF LEV +0dB | CH1 REF LEV +4dB | CH1 REF LEV +8dB | | CH2 REF LEV +0dB | CH2 REF LEV +4dB | CH2 REF LEV +8dB | RETURN |
|---|---|---|---|---|---|---|---|
| | | | | | | | 48 |

## GPI MENUS

**85** — **Name:** Choose GPI function Menu
**Access Via:** GPI

Choose a GPI function: >

| ADD GPI | DELETE GPI | MODIFY GPI | | RECORD ABSOLUTE | SOURCE ABSOLUTE | ENTRY + | ENTRY - |
|---|---|---|---|---|---|---|---|
| 86 | 1 | 87 | | 1 | 1 | 1 | 1 |

**86** — **Name:** Select GPI Port Menu
**Access Via:** GPI, **ADD GPI**

Choose a GPI to add: >

| GPI 1 | GPI 2 | GPI 3 | GPI 4 | | | | RETURN |
|---|---|---|---|---|---|---|---|
| 85 | 85 | 85 | 85 | | | | 85 |

**87** — **Name:** Modify GPI Menu
**Access Via:** GPI, **MODIFY GPI**

Choose a GPI to change this to: >

| GPI 1 | GPI 2 | GPI 3 | GPI 4 | | | | RETURN |
|---|---|---|---|---|---|---|---|
| 85 | 85 | 85 | 85 | | | | 85 |

## EFFECTS MENUS

**88** — **Name:** Dissolve Menu
**Access Via:** DISS

Choose DISSOLVE parameters: >

| | | | EFFECT DURATION |
|---|---|---|---|

**89** — **Name:** Wipe Menu
**Access Via:** WIPE

Choose WIPE parameters:

| H/S/O/o EDGE | NORMAL/ REVERSE | WIPE PATTERN | EFFECT DURATION |
|---|---|---|---|

**90** — **Name:** Key Type Selection Menu
**Access Via:** KEY

Choose new keyer or Delete/Modify current KEY effect: >

| KEYS | DOWNSTRM KEYS | DOWNSTRM FADES | |
|---|---|---|---|
| 91 | 92 | 93 | |

**91** — **Name:** Select Effects Keyer Type M
**Access Via:** KEY, **KEYS**

Select key type on Effects Keyer: >

| CUT KEY | DISS KEY UP | DISS KEY DOWN | DISS KEY UP&DOWN |
|---|---|---|---|
| 94 | 94 | 94 | 94 |

**92** — **Name:** Select Downstream Keyer T
**Access Via:** KEY, **DOWNSTRM KEY**

Select key type on Downstream Keyer: >

| DSK CUT KEY | DISS DSK UP | DISS DSK DOWN | DISS DSK UP&DOWN |
|---|---|---|---|
| 94 | 94 | 94 | 94 |

**93** — **Name:** Select Downstream Fade Ty
**Access Via:** KEY, **DOWNSTRM FAD**

Select from Downstream Fader: >

| FADE UP | FADE DOWN | | EFFECT DURATION |
|---|---|---|---|
| 94 | 94 | | |

**94** — **Name:** Key Parameters Menu
**Access Via:** KEY, **KEYS, (CUT KEY; DISS KEY DOWN;**
KEY, **DOWNSTRM KEY; DISS DSK DOWN;**

Choose KEY parameters: >

| KEY CLIP LEVEL | KEY GAIN LEVEL | CHROMA KEY HUE | EFFECT DURATION |
|---|---|---|---|

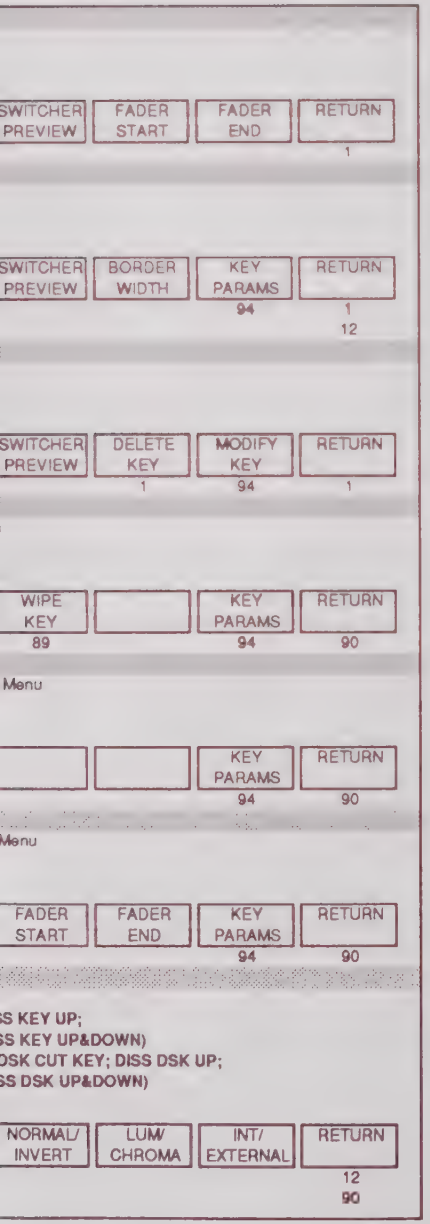



**Figure 8-2.**
**ACE 25 Soft Key Tree (Sheet 7 of 8)**

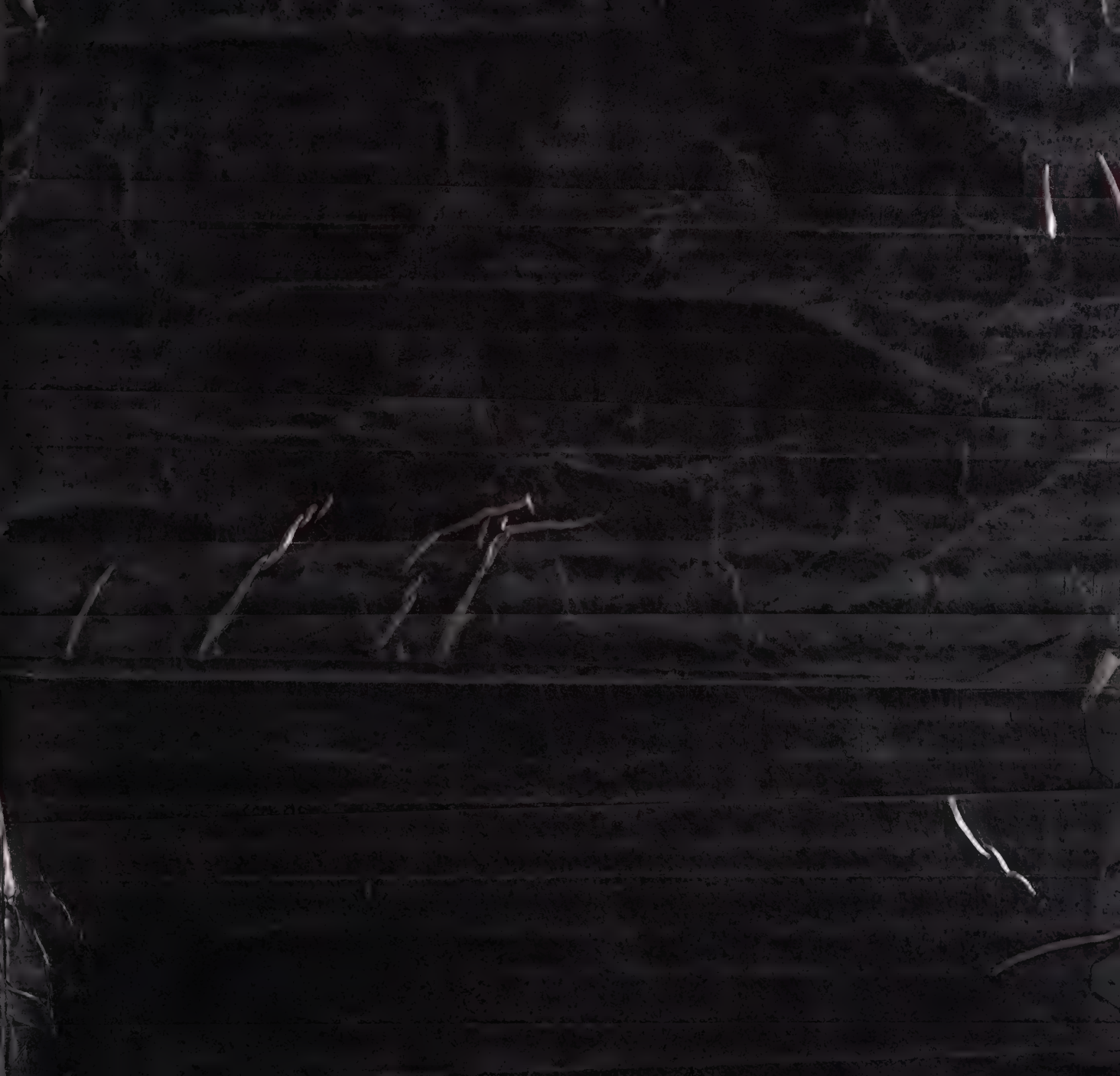


Figure 8-2.
ACE 25 Soft Key Tree (Sheet 8 of 8)

# GLOSSARY OF EDITING TERMS

**A-B Rolls:** An edit, usually a special effect, requiring synchronization of two source VTRs and record VTR.

**A and B Rolls:** Separation of material into two groups of reels (A rolls and B rolls), with alternate scenes on each reel pair (A reel and B reel) to allow overlapping transitions between reels.

**Alphanumerics:** Letters and numbers.

**ASCII:** American Standard Code for Information Interchange. Binary system for encoding letters, numbers, and characters.

**Assemble Mode Editing:** Video and audio material and control track are simultaneously recorded on blank master tape. Most commonly used when editing onto blank video cassette. See Insert Mode edit.

**Assemble Style Edit:** Each edit is performed in succession, one after the other. Usually used for putting together rough cut for first preview. Term is also called "add-on" edit.

**ATR:** Audio tape recorder.

**Audio Channels:** Portion of videotape reserved for audio. There are usually two channels on video cassettes and three channels on one-inch VTRs.

**Audio Cue:** A sound—word, noise, musical note, etc.—used as point of reference in selecting edit points.

**Audio Dub:** Re-recording of audio portion of videotape without disturbing video signal already recorded.

**Audio-follow-video:** Automatic cutting or fading of audio signal simultaneously with, and matching rate of, selected video transition (cut, dissolve, wipe).

**Auto Assembly/Auto Conforming:** Automatic editing of videotape to conform to previously generated paper tape (or floppy disk) edit list.

**AUX:** Auxiliary channel on switcher to which video device (video camera, film chain, character generator, etc.) can be connected.

**Background Generator:** Video generator that produces solid color output which can be adjusted for hue, chroma, and luminance.

**Back Time:** Calculation of tape in point by finding out point and subtracting duration of edit.

**Battery Back-up:** Unit which provides power to edit-controller's list memory so that edit list will be saved in the event of a power failure.

**Black Burst Gen:** Stand-alone device or module in sync generator or edit controller which generates a set composite black signal containing sync, burst, and set-up. Signals constitute black picture on video screen and are necessary for blacking a tape.

**Black Level:** Also called set-up or pedestal. Lowest video level during active picture.

**Blanking:** Process of rendering scanning beam inoperative so that it will not be seen during retrace period. Horizontal and vertical blanking pulses cut off scanning beam as it is moved from right to left for each line, and as it travels from bottom to top of picture after each field.

**Boot-up:** Starting up a computer by loading its system software or operating program.

**Both:** Brings up video channel and audio channels used on previous edit.

**BVB:** Black-video-black. Edit preview that displays black up to edit point, new incoming source video from edit-in point to the edit-out point, and then black from edit-out point.

**CPU:** Central Processing Unit. Heart of the computer which consists of arithmetic unit, control unit, and storage registers. CPU performs basic arithmetic and logic functions, and supervises operation of entire system.

**Camera Match:** Shot-to-shot picture fidelity. Improperly matched cameras may exhibit differences in level, balance, colorimetry, or defects which cause picture quality to change from shot to shot. These differences may present problems during editing as editor attempts to minimize differences.

**CAV:** Component analog video. Component video signals in which three separate analog voltages (one luminance and two chroma channels) represent picture value.

**Checkerboard Auto Assembly:** Auto assembly process where all edits from mounted reels are made and edits from unmounted reels are skipped. Method leaves blank areas on record tape that will be filled when new source tapes are loaded. Term also referred to as B mode assembly. See Sequential Auto Assembly.

**Chroma Key:** Key in which keying signal is derived from a specific hue of key source video. Chroma key substitutes video signal for particular color (often blue) in background video, making key insert video appear to be part of the picture.

**Chrominance:** Term used to indicate both hue and saturation of a color.

**Chrominance Signal, Chroma:** Modulated subcarrier side bands in a composite video signal. Term also used to describe color difference signals in component system, i.e., those carrying information about hue and saturation in a pixel.

**Clean Edit List:** Edit list with no overlapping material or discontinuities in either video or audio tracks that might interfere with auto assembly.

**Clip:** To produce a key signal from a video signal. Clip control is used to set threshold level to which video signal is compared. In luminance keying, any video (brightness) level above clip level will insert key; any level below clip level will turn key off. Clip level is adjusted to produce an optimum key free of noise and tearing. In key invert mode, this clip relationship is reversed, allowing video below clip level to be keyed in. This is used when keying from dark graphics on a light background.

**Clip Level:** Level of luminance at which a key cuts its hole.

**Clipping:** Electronic limit usually imposed in cameras to avoid overly bright or dark signals. When improperly applied, can result in loss of picture information in very bright or very dark areas. Also used in switchers to set cutoff point for mixing video signals.

**Color Balance:** Adjustment of color in the camera to meet a desired standard, i.e., color "chip" chart, flesh tones. Term also referred to as "white balance."

**Color Bars:** Electronically generated signal consisting of red, blue, green, yellow, cyan, and magenta, plus black and white. Color bars are used as reference at head end of videotape recording for set up, ensuring accurate level color saturation and balance during playback.

**Color Black:** Composite video signal containing sync, burst, and set-up signals. Black can be used for recording standard, unchanging control-track level on tape so that insert mode editing can be performed. "Going to black" or "fading to black" is figuratively like bringing down the curtain at the end of a scene.

**Color Difference Signals:** Video signals which convey only color information. For example, unmodulated R-Y and B-Y, I and Q, U and V, $P_r$ and $P_b$, etc.

**Color Framing:** Joining of video frames to assure continuation of phase relationship of color reference. Correction is made over a four-field sequence in NTSC or an eight-field sequence in PAL.

**Comments:** Written notes added to edit list (but not actually part of data used for auto assembly) to provide additional information pertaining to edit. For example, "Watch audio level here."

**Component Video:** Video signal that is split into two parts, luminance signal and chrominance signal, that are recorded separately. Luminance signal is recorded on Y track, while C track is used for chrominance signal (consisting of two separate color difference signals R-Y and B-Y).

**Composite Video:** NTSC or PAL video signal which contains timing, sync, color, and luminance information combined.

**Control Track:** Synchronizing signal recorded on tape which provides reference for tracking control and tape speed. Signal consists of clean, consistent electronic reference pulses (one per frame).

**Crash Edit:** Assemble edit made by manually forcing VTR into record. Record VTR is not necessarily frame-locked and may leave slight glitch or distortion at edit point upon playback.

**Crash Record:** Using edit controller to drop record VTR into Record mode just as if Record button were hit directly. There is no pre-roll and no synchronization. Term also referred to as manual record.

**Crosspoint:** Electronic circuit that switches video or audio signals onto a bus.

**Crosstalk:** Interference between signals located on different parts of videotape or signals being processed in different channels of the electronics. Crosstalk typically occurs among audio and control tracks.

**Cue:** Positioning of video or audio tape at a predetermined location ahead of the edit in point or out point.

**Cut:** Instantaneous transition from one video/audio source to another source. Electronic equivalent of splicing together pieces of film or audio tape.

**Cut Away:** Edit that cuts away briefly from main action of scene. May be used to change pace or cover a jump cut.

**Cuts-only Editing:** Basic editing mode using only cut edits to progress from scene to scene. Mode uses no A/B rolls or effects. Term also referred to as news-style editing.

**Cutting to the Reaction:** Showing in a second scene, the results of actions in the preceding scene. For example, first scene shows a gun being shot, second scene shows a man grabbing his arm.

**Display:** CRT device or LED panel on which numbers, characters, graphics, or other data is presented.

**Dissolve:** Slow crossfade. Type of edit in which one source of video or audio gradually fades out while, at the same time, another source fades in, with the two pictures briefly superimposed.

**Drop-frame Timecode:** SMPTE standard timecode which drops frame number :00 and :01 each minute, except for every tenth minute, to compensate for NTSC variance from real clock time.

**Drop Outs:** Small bits of missing picture information usually caused by physical imperfections in surface of videotape.

**Dubbing:** Erasing audio track and recording new words, music, or sound effects in its place. Term also means making copies of a tape.

**Duration:** Length of time (in hours, minutes, seconds, and frames) that a particular effect or section of audio or video material lasts.

**EBU Code:** European version of SMPTE timecode. Primary difference is its use of 25 frames per second rate versus the SMPTE rate of 30 fps. There is no drop frame requirement with EBU code.

**Edge:** Synonym for border.

**Edit:** Any point on videotape where audio or video information has been added to, replaced, or otherwise altered from its original form.

**Edit Controller:** Device that allows remote control of VTRs for purpose of editing videotapes.

**Edit Decision List (EDL):** Temporary record in edit controller's memory or permanent record in form of punched paper tape, floppy disk, or printed copy of edit decisions made for video production. EDL contains information such as in points, out points, and effects durations. This list can later be used for automatic assembly of the production.

**Edit Display:** Display used exclusively to present editing data and editor's decision lists.

**Edit List (Edit Decision List, EDL):** Temporary record of all edit decisions made for video program (such as in-times, out-times, and effects) in form of printed copy, paper tape, or floppy disk file, which is later used to automatically assemble program.

**Edit Point (Edit-in, Edit-out):** Beginning or ending point for selected event within program that is being assembled on tape.

**Edited Master:** Tape which is end result of on-line editing; final version of edited program ready for duplication or presentation.

**Editing:** Process of executing a series of edits to reach final form of a production or program; selective placement of video and audio sequences to achieve desired effect, mood, plot advancement, program length, etc.

**Editor:** Person who edits.

**Effect:** Multi-source transition, such as wipe, dissolve, or key.

**End-point:** Where an edit or effect ends.

**Event Number:** Number assigned by system or editor to each edit recorded in EDL.

**Fade:** A mix to black. Term also a synonym for any movement of the fader.

**Field:** One-half of a complete TV scanning cycle.

**Foreground:** Front layer of video in picture. Term also refers to key insert video.

**Flash Frame:** Frame of extraneous or unmatched video, sometimes caused by old material on tape not completely recorded over by new material. Appears just prior to first desired frame of edit, and goes by so quickly that it appears as a flash on the screen.

**Frame:** Total area occupied by television picture, occurring in NTSC system every 1/30 of a second and produced by an electron beam scanning all 525 lines of raster area. In PAL system, a frame contains 625 lines and occurs every 1/25 of a second. See Field.

**Frame Lock:** Synchronization between house reference video and tape timecode.

**From Source:** VTR or other device generating video or audio signal and used as source from which dissolve or wipe starts.

**General Purpose Interface (GPI):** Interface from controller to device for simple on/off or single function control. Trigger voltage is applied at predefined point in edit which activates device.

**Generation:** Number of times a duplicate is removed from original master videotape (produced by camera).

**Hard Border:** Border that exhibits abrupt changes between background and border and between border and foreground. Term also used to describe a key border with a high gain.

**In-frame Edit:** See Match Frame Edit.

**In Point/Entry Point:** On record VTR, place where new material is to be recorded; on source VTR, beginning of scene to be recorded.

**Initialize:** Setting equipment switches and circuits to their starting position and values.

**Insert Mode Edit:** Edit in which new video is inserted into existing material with original timecode and control track left intact. See Assemble mode edit.

**Insert Style Edit:** Edit in which new material is inserted into previously recorded material, i.e., a cutaway or reaction shot.

**Insert Video:** Video that fills a key, or key itself. Insert for most keys is "self," a key that is filled with video that cuts hole. Insert can also be "matte" fill from an internally generated color, or "bus" fill from any video source. Also called Fill, Fill Video, Key Insert, and Key Foreground.

**ISO Reel (Isolated Reel):** Multiple reels of tape of same subject recorded simultaneously from different cameras on different VTRs.

**ISO Key (Isolated Key):** Key in which key (hole cutting) video is different from insert (fill) video. Commonly used with character generators that provide both signals. This allows switcher to create key border that is wider and cleaner than borders produced only by switcher. Term also called Externally Processed Key and External Key.

**Jam Sync:** Process of locking timecode generator to existing recorded timecode on tape in order to recreate or extend timecode. "Jamming" process may be necessary because timecode may be nonexistent, nonsequential, or of poor quality.

**Jogging:** Single-frame forward or backward movement of videotape.

**Key:** Video that overlays or cuts hole in background. Keys can be derived either from luminance (brightness) or from chroma (hue) of video signal. Term also called "super" (film term).

**List Cleaning:** Process of eliminating overlaps from edit list so that no out point is scheduled after in point of succeeding edit.

**List Management:** Manipulation of edit list by adding, deleting, moving, or re-numbering edits to obtain desired result.

**Longitudinal Timecode (LTC):** Timecode information recorded as audio signal, typically on audio track 2 or 3.

**Mark (Mark Entry, Mark Exit):** Term used to describe function of entering edit time "in" or edit time "out" (edit timecode) on-the-fly.

**Master:** Original recording or first-generation tape.

**Master-slave:** Software option which allows user to maintain synchronization between two or more transports using one machine as control reference (master).

**Match Cut:** Edit which picks up or follows specific action or sequence with same or similar action from another perspective, i.e., time or place.

**Match Frame Edit:** Invisible edit made by selecting in-edit point that exactly matches previously recorded frame. Usually used to extend an edit, often as a preliminary to a special effect.

**Negative Duration:** Situation created when in point is loaded which occurs on tape after out point. Only allowed on a system that can instruct a VTR to roll backwards in an edit (reverse slow motion edit).

**NTSC:** National Television Systems Committee. Standard specifications approved by FCC in December, 1953, for commercial color television broadcasting within the United States of America.

**Non-drop Frame:** System of timecode that retains all frame numbers, resulting in a slight deviation from real clock time.

**Normal/Reverse:** Direction of pattern movement as transition progresses. In normal transition, pattern starts small and grows. In reverse transition, patterns starts large and diminishes. In rotating wipes, normal transition is clockwise.

**Off-line Editing:** Editing that produces an edit decision list, which is used later for assembling program. Videotape (sometimes called work print) may be produced as by-product of off-line editing.

**On-line Editing:** Editing that produces a finished program master.

**On-the-fly:** Selecting a tape edit point while VTR is moving.

**Open-ended Edit:** Edit without a defined out point. End of edit is determined by next edit.

**Operating Program:** Computer software program which controls all functions of related computers and hardware devices.

**PAL (Phase Alternated Lines):** Color television standard. An improvement on NTSC standard.

**Pattern:** Geometric shape which grows, rotates, or otherwise moves, and in moving, removes background video and reveals foreground video.

**Post-roll:** Number of frames (or seconds and frames) that roll after the edit out point.

**Pre-roll:** Number of frames (or seconds and frames) between cue point and edit point which allows ACE 25 to synchronize machines during an edit.

**Preview:** Rehearsal mode of proposed edit or sequence of edits entered in EDL. Effect of proposed edits are observed but not recorded on edit master.

**Pulse Count:** Method of editing in which system counts control-track pulses to find locations on tape. Method not as precise as timecode editing. Term also known as "control track editing."

**Reaction Time:** Time between when you see your edit point and when your finger can press MARK ENTRY or MARK EXIT button.

**Real Time:** Actual elapsed time (as opposed to "tape time").

**Real Time Clock:** Timing signal derived from house composite sync.

**Reel Number:** Number assigned by operator to each reel or cassette of videotape used in editing session. Reel number identifies each reel or cassette on edit list for final assembly or for future revisions.

**Reference Video:** Video signal used to synchronize different pieces of video equipment by providing common timing signal. Signal is generated from a single source. Reference video typically consists of black color bars and control track pulses.

**RGB Channels:** Red, green, and blue color channels that convey separate color signals without composite sync.

**Ripple:** Modification of edit decision list to compensate for edits which have been added, deleted, or changed in length. Ripple process fills holes and removes overlaps in record times which were created by adding or deleting material.

**Rough Edit:** Preliminary rapid assembly of different sequences of program or production in order of their appearance. Usually followed by one or more fine cuts. Term is sometimes called first cut.

**RS-232:** Standard established by Electronic Industries Association (EIA) for uniform serial data-signal transmission and input/output to computing devices. Standard specifies parameters such as connector pin assignments, signal levels, and impedance levels, but does not specify coding of signal.

**Saturation:** Term used to describe the amount of color in a picture.

**SECAM:** System of coding color information for television transmission developed in France and primarily used in France, USSR, and the Middle East. Basis of operation is sequential recording of two color difference signals on alternate lines.

**Sequential Auto Assembly:** Auto assembly mode in which edits are performed in same order as they appear in edit list. Term also referred to as A-mode assembly. See Checkerboard auto assembly (B-mode).

**Set/Trim In, Set/Trim Out:** Function of entering edit in and out points in timecode format. Preceding numeric entry with a + or – adds to or subtracts from already existing edit points.

**SFX:** Abbreviation for sound effects, the sounds and music in a video program used to create a mood or enhance reality.

**SMPTE:** Society of Motion Picture and Television Engineers.

**SMPTE Format, SMPTE Standard:** In component television, these terms refer to SMPTE standards for parallel analog component video interconnection. SMPTE has standardized both RGB and Y, $P_r$, $P_b$ color difference systems (a version of Y, B-Y, R-Y).

**Soft Border:** Border which diffuses into adjacent areas.

**Software:** Operating instructions loaded into computer memory that control how and when system hardware will execute its operations.

**Source VTR:** Videotape recorder in editing system specifically designated to provide "playback" audio/video material for re-recording onto record VTR during an edit.

**Split Audio/Video Edit or Split Edit:** Edit in which audio and video edit points are selected independently from each other. For example, audio may lead video and come in several frames or seconds before you see accompanying picture.

**Standard, Interconnect Standard:** Specific signal configuration, reference pulses, voltage levels, etc., which describe input/output requirements for a particular type of equipment. Some standards have been established by professional groups or government bodies (such as SMPTE or EBU), others are determined by equipment vendors and/or users.

**Switcher:** Machine used to perform simple switch on/switch off transitions or, in complex devices, coordination of special effects in video signals.

**Switcher Interface:** Device that allows remote control of a production switcher.

**Sync:** Signal pulse which synchronizes reference for each frame and scans picture line. Defects in this pulse may cause jumping, rolling, or breakup.

**Synchronization:** Precise coincidence of two signals, pulses, or counts.

**Tag:** Electronic marking of an edit reference point for re-synchronizing playback VTR to record VTR after edit is performed.

**Time Base Corrector (TBC):** Electronic device which improves stability of video signals by correcting timing flaws inherent in videotape playback. TBCs are required for all A/B roll editing.

**Timecode:** SMPTE/EBU standard for encoding time in hours, minutes, seconds, and frames of video.

**Timecode Generator:** Signal generator designed to generate and transmit SMPTE/EBU timecode.

**Timecode Reader:** Counter designed to read SMPTE/EBU timecode off tape.

**To-sources:** VTR or other device generating video or audio signal and used as source to which dissolve or wipe transitions.

**Transition Point:** Beginning point of dissolve or wipe, or point at which cut occurs.

**Trim:** To add or subtract from an edit time or duration (using hours, minutes, seconds, and frames). Trimming can be done at beginning or end of edit.

**Upcut:** Incorrect edit in-time which requires edit point to be trimmed back.

**User Bits:** Additional eight digit sequence in SMPTE/EBU timecode signal which can be used for frame identification and other purposes. Utilization of User Bits requires timecode generator capable of generating and reading User Bits.

**VITC (Vertical Interval Timecode):** Timecode signal recorded into area between fields of video. Advantage of VITC is that timecode can be read at very slow speeds and when VTR is in pause. Most likely to be of value to those doing precise video animation or programming for videodiscs. Requires timecode generator and reader specifically designed for VITC. This signal can be pre-striped but must be recorded at same time as video signal of which it is a part.

**VITS (Vertical Interval Test Signal):** Signals transmitted on lines 17 and 18 in both fields for evaluation of system performance. Usually color bars, multi-burst, modulated stairstep, and composite are transmitted.

**Video:** Composite picture signal complete with audio, picture information, sync pulses, etc.

**VBV:** Video-black-video. Edit preview that displays record tape video up to edit point, black from edit-in point to edit-out point, and then record tape video from edit-out point.

**VVV:** Video-video-video. Edit preview that displays previously recorded video up to edit point, new incoming source video from edit-in point to edit-out point, and then previously recorded R-VTR video from edit-out point.

**Window Dubs:** Duplicates of master tapes with timecode burned into window in picture using Character Inserter. Primarily used for off-line scene logging or editing without timecode reader.

**Wipe:** Edit transition in which one video signal replaces another video signal on TV screen in pre-determined pattern.

**Wipe Code:** Numeric code which defines a specific wipe pattern. Code number may include information which governs direction (normal or reverse) as well as edge characteristics (hard or soft). This varies depending on switcher being used.

**Y, C1, C2:** Generalized set of CAV signals; Y is luminance signal, C1 is first color difference signal, and C2 is second color difference signal.

**Y, I, Q:** Set of CAV signals specified for NTSC system: Y is luminance signal, I is first color difference signal and Q is second color difference.

**Y, $P_b$, $P_r$:** Version of Y, R-Y, B-Y specified for SMPTE analog component standard.

**Y, R-Y, B-Y:** General set of CAV signals used in PAL system as well as for some encoder and most decoder applications in NTSC systems; Y is luminance signal, R-Y is first color difference signal and B-Y is second color difference signal.

**Y, U, V:** Luminance and color difference components for PAL and digital systems; derived from Y, B-Y, and R-Y (gain reduced to fit dynamic range).

# APPENDIX A

# INSTALLATION

## A-1 INTRODUCTION

The following items are discussed in this section:

- Unpacking and inspection (paragraph A-2)
- System configuration guidelines (paragraph A-3)
- Environmental guidelines (paragraph A-4)
- Main components (paragraph A-5)
- Optional equipment (paragraph A-6)
- Support equipment (paragraph A-7)
- Power (paragraph A-8)
- Standard connections (paragraphs A-9 - A-18)
- Peripheral device connections (paragraph A-15)
- Internal switcher connections (paragraphs A-19 - A-22)
- Voltage changeover (paragraphs A-23 - A-31)
- Set-up instructions (paragraphs A-32 - A65)

This section covers the ACE 25 system hardware installation. The studio engineer or installation technician should be thoroughly familiar with cabling and equipment at your facility. Procedures and configurations presented in this section are generalized for typical situations and should be adapted as necessary for your particular location.

**WARNING**

**TO AVOID ELECTRICAL SHOCK OR MACHINE DAMAGE, DISCONNECT POWER BEFORE MAKING INTERNAL ADJUSTMENTS TO ANY PIECE OF EQUIPMENT.**

**TO AVOID LOUD AUDIO "POP," ENSURE THAT EXTERNAL AUDIO AMPLIFIERS CONNECTED TO SYSTEM ARE TURNED OFF, BEFORE TURNING EDIT CONTROLLER POWER ON OR OFF.**

## A-2 UNPACKING AND INSPECTION

Unpack all cartons and check equipment for shipping damage. If damage is found, notify the carrier without delay. A packing list will be included. If there are any discrepancies, report them immediately to your local Ampex representative, or notify:

Ampex Corporation
VSD Technical Support
MS 3-46, 401 Broadway
Redwood City, California 94063
(415) 367-3807

## A-3 SYSTEM CONFIGURATION GUIDELINES

There are many different ways to design, configure, and install an editing system. No two installations are the same, because of equipment, facility, customer, and application differences. To get the most out of your system design, careful planning on paper prior to installation is recommended, as is consultation with video system professionals if required.

It is also an excellent idea to follow these basic principles of system configuration:

- Invest in flexibility. Because technology is in constant change, an edit suite must be easily expanded, upgraded, and format-flexible. Change is virtually a "given" rule in edit system operation and configuration. Design your edit suite with change in mind, remembering that flexibility refers to more than hardware; it must also include approach taken to engineering and production talent.
- Ensure system can accomplish your client's creative visions. Whether internal or external client, whether you are creating a simple 30-second spot or a full-blown production, editing system should facilitate, not hinder, your creative process.
- Optimize suite for speed and efficiency.
- Invest in well-designed peripheral components and control panels. Intelligently designed equipment and a logical equipment layout will be a timesaver in post production.
- Invest in comfort. Lighting, sound proofing, ergonomically designed consoles, and other environmental features are extremely important.

## A-4 ENVIRONMENTAL GUIDELINES

The room in which ACE 25 is installed—a machine room, an edit suite, or a mobile vehicle—should be well-ventilated, properly air conditioned, and dust free.

- Units and interconnecting cables should be separated or isolated from strong electromagnetic fields (such as those caused by heavy-duty transformers, large electric motors, or transmitting equipment).
- Maximum temperature range should be 10 - 40° C, with normal operating temperature not exceeding 27° C (approximately 80° F).
- Maximum humidity range should be 10 - 90% relative humidity level (non-condensing) with normal at 80% humidity.

Whatever the installation, field or studio, prolonged operation under extreme environmental conditions is not recommended for equipment or operators.

## A-5 MAIN COMPONENTS

The two main components of the ACE 25 comprise:

- Edit controller chassis, which is designed for either table top operations or mounting in a rack, and requires 7 rack units, or 10 1/2 in. of vertical space. See Figure A-1.
- Keyboard, which is designed for table top operations, or flush-mounting in a console with the base removed. See Figure A-2.

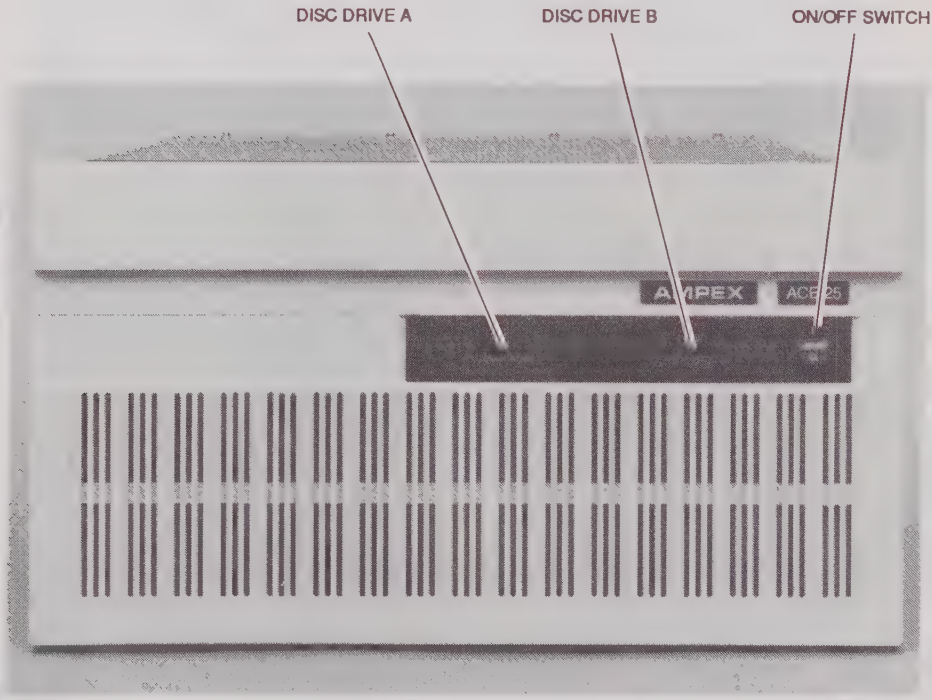



**Figure A-1. Edit Controller**

17605-6

**Figure A-2. Keyboard**

Two extension cables are required for normal operations:

- Keyboard cable (9-pin "D"), available in 5, 10, 20, and 30 meter lengths.
- Monitor cable (9-pin "D"), available in 5, 10, 20, and 30 meter lengths.

The ACE 25 standard hardware in the chassis includes:

- Four RS-422 VTR interface ports (Record, Source A, B, C)
- Four General Purpose Interface (GPI) output ports
- 80286 CPU
- One (1) megabyte of on-board RAM
- Two (2) 3.5 in. disk drives
- Floppy Disk Controller
- Monochrome Display Adaptor (MDA), high resolution
- Eight-channel Intelligent Line Controller (ILC)
- Color Framer with GPI
- Extender board

The ACE 25 standard software is contained on one disk, including:

- System software
- Switcher driver interface software
- VTR interface software

**Note**

**ACE 25 software operates in either PAL, PAL-M, or NTSC, depending on internal jumper settings in Edit Controller Unit.**

## A-6 OPTIONAL EQUIPMENT

The ACE 25 optional equipment includes:

- Table top data monitor
- Rack mounted data monitor
- RS-422 control cables (9-pin "D"), to connect VTRs to edit controller chassis, available in 5, 10, 20, and 30 meter lengths
- Parallel or serial printer
- Switcher back plane for connecting audio/video signals with two internal switchers
- Composite video data kit
- ASCII comments keyboard

**Note**

**If comments keyboard is customer supplied, it *MUST* be an IBM/AT compatible keyboard with a 5-pin DIN connector. Any other keyboard used may crash the system.**

## A-7 SUPPORT EQUIPMENT

When setting up an editing system, an engineer should assist with equipment setup and configuration. Setup may require many of the following support items:

- Video cables with BNC connectors
- Audio cables with XLR connectors
- Time Base Correctors (TBCs): To perform A/B roll editing, one TBC per source VTR is required to stabilize and correct each video signal.
- Video Switcher, internal or external: To perform A/B roll video editing (dissolves, wipes, keys), a video switcher is required.
- Audio Switcher, internal or external: To perform A/B roll audio editing (dissolves), an audio switcher is required.
- External Audio board (optional)
- Audio and video patch panels
- Sync generator (or house sync feed)
- Distribution amplifiers
- Audio monitoring
- Audio power amplifiers
- Video monitoring (color and black/white monitors for Program video, VTRs, and auxiliary video sources)
- Video signal monitoring (waveform monitor/vectorscope)
- At least two blank 3 1/2 in. disks (double-sided, double density, 750K)

Figures A-3 through A-5 represent typical system configurations using ACE 25 with internal and external switchers.

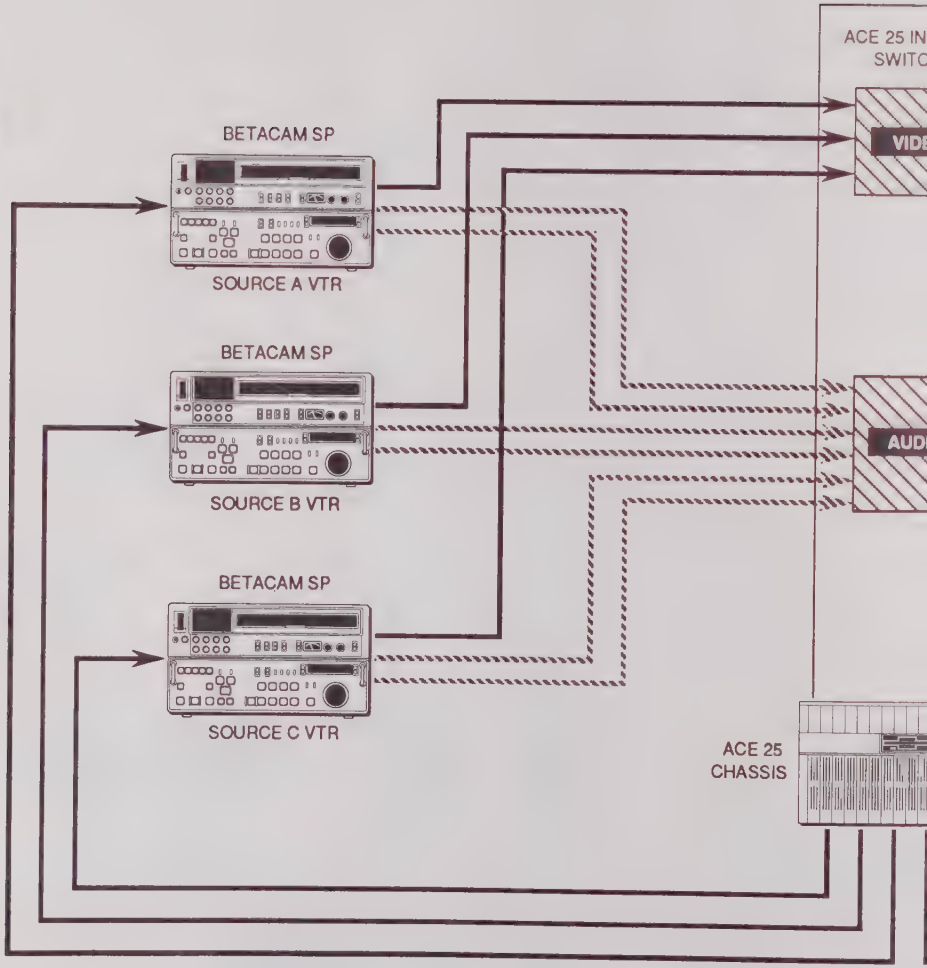
## A-8 POWER

The ACE 25 is designed for operation from power sources supplying either 90-132 Vac (60 Hz) or 180-264 Vac (50 Hz). If you have any questions regarding power, or if it becomes necessary to change ACE 25's voltage settings, consult your facility engineer, refer to the service manual, or refer to paragraph A-23, "System Voltage Changeover."

## A-9 EDIT CONTROLLER CONNECTIONS—STANDARD

The ACE 25 chassis rear panel connectors shown in Figure A-6 support the following:

- Two data monitor outputs (9-pin "D," TTL video)
- One keyboard (9-pin "D," RS-422)
- Four VTRs (9-pin "D," RS-422)
- One spare port (9-pin "D," RS-422)
- Two external switchers (9-pin "D," RS-422)
- Two RS-232 serial ports (25-pin "D")
- One parallel printer port (25-pin "D")
- Four GPI ports (25-pin "D")
- Reference Video input/loop (BNC)


ACE 25 IN
SWITC
VIDE
AUDI
BETACAM SP
SOURCE A VTR
BETACAM SP
SOURCE B VTR
BETACAM SP
SOURCE C VTR
ACE 25
CHASSIS

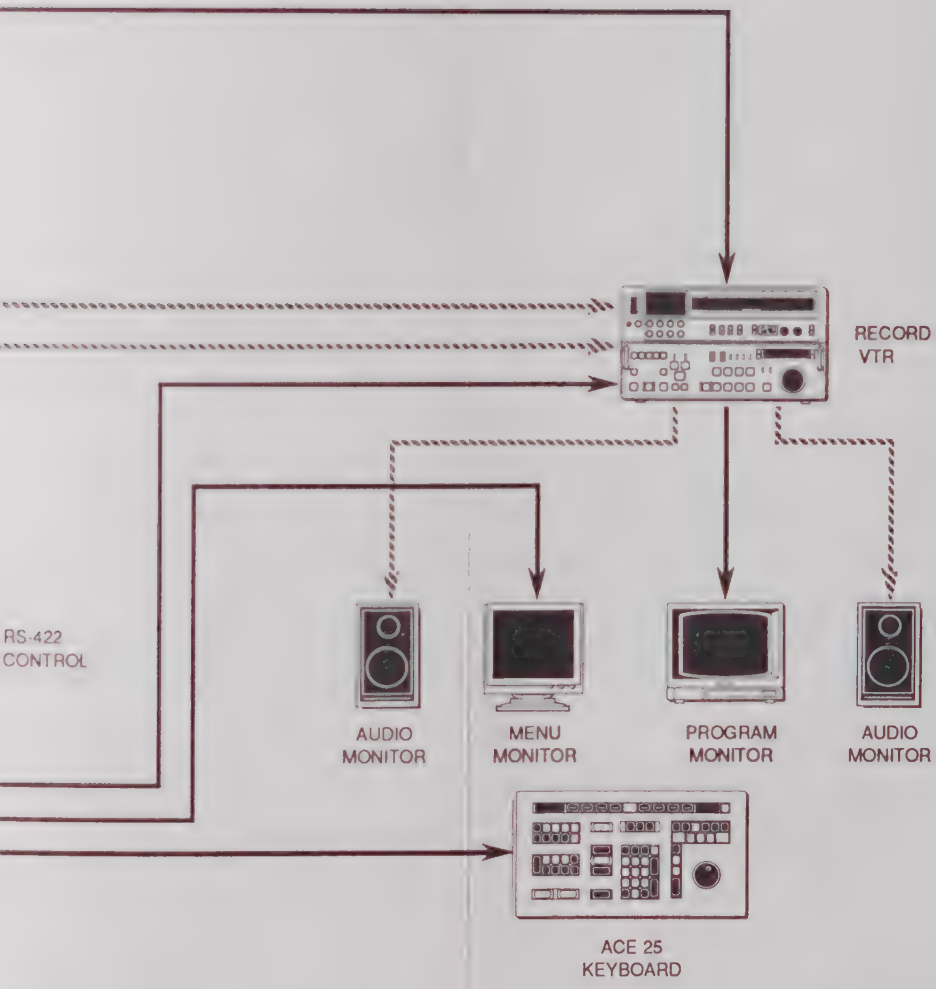
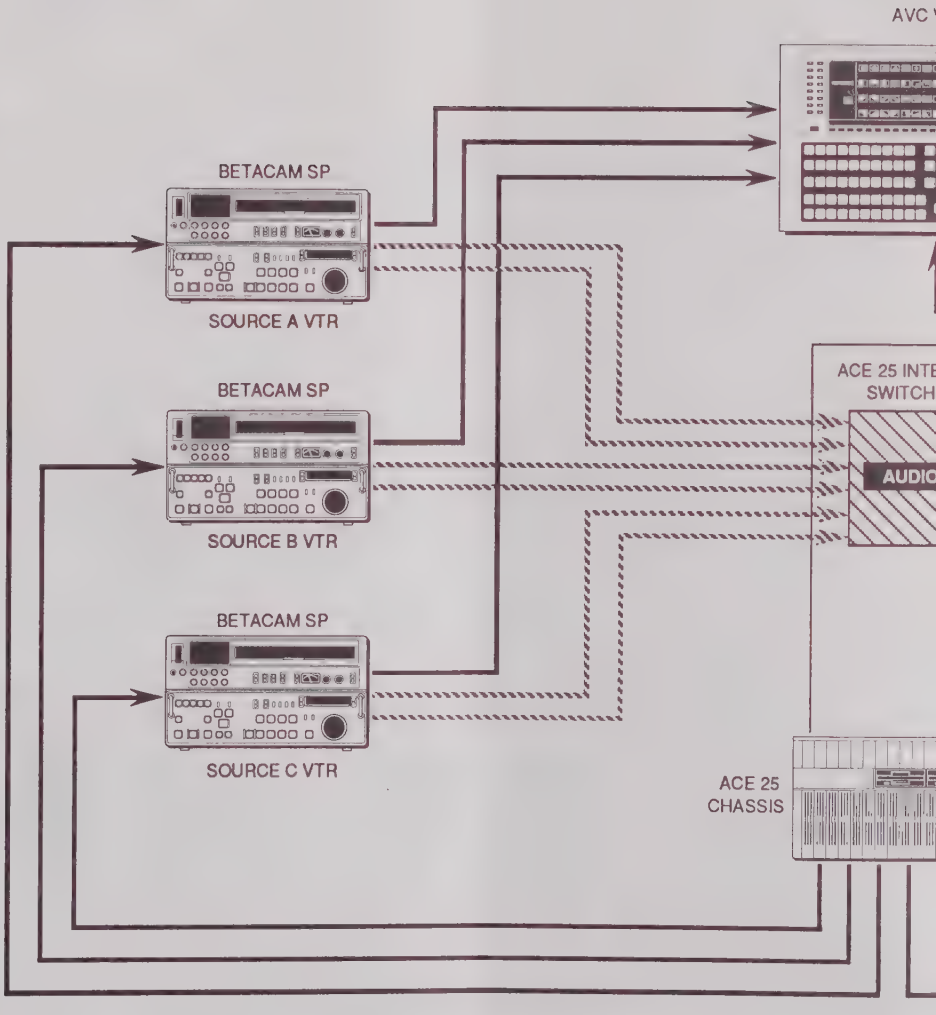



**Figure A-3.**
**ACE 25 Configuration**
**with Internal Audio and Video Switchers**


AVC
BETACAM SP
SOURCE A VTR
BETACAM SP
SOURCE B VTR
BETACAM SP
SOURCE C VTR
ACE 25 INTE
SWITCH
AUDIO
ACE 25
CHASSIS

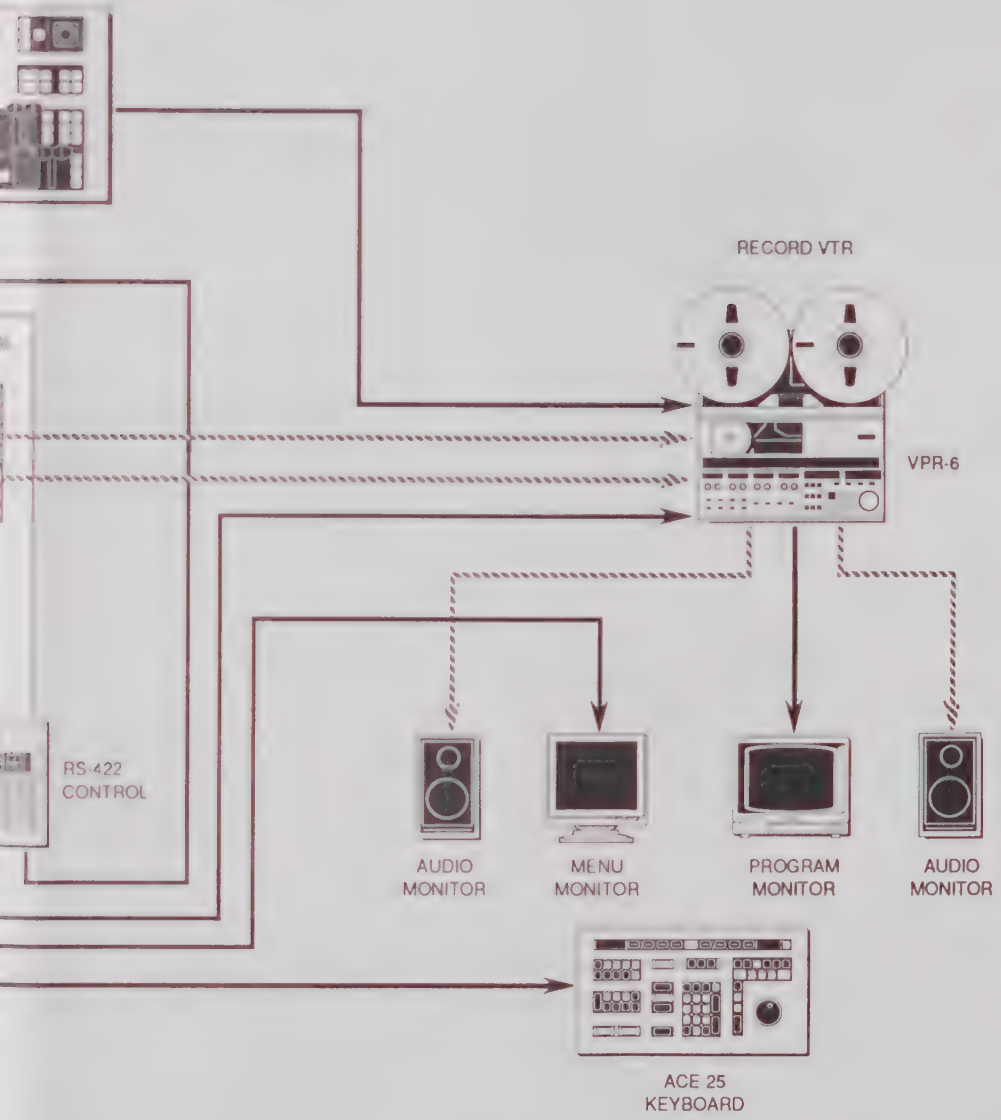
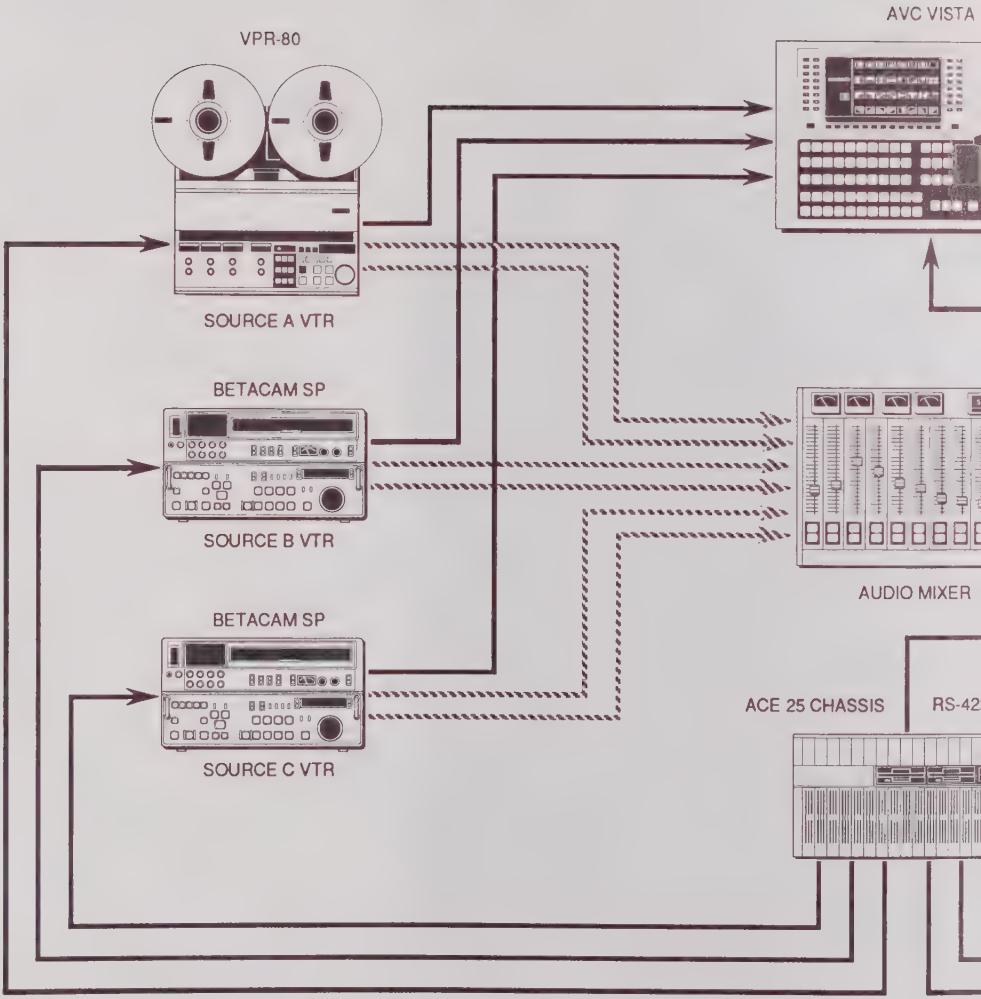



**Figure A-4.**
**ACE 25 Configuration**
**with Internal Audio and External Video Switchers**


AVC VISTA
VPR-80
SOURCE A VTR
BETACAM SP
SOURCE B VTR
AUDIO MIXER
BETACAM SP
ACE 25 CHASSIS
RS-42
SOURCE C VTR

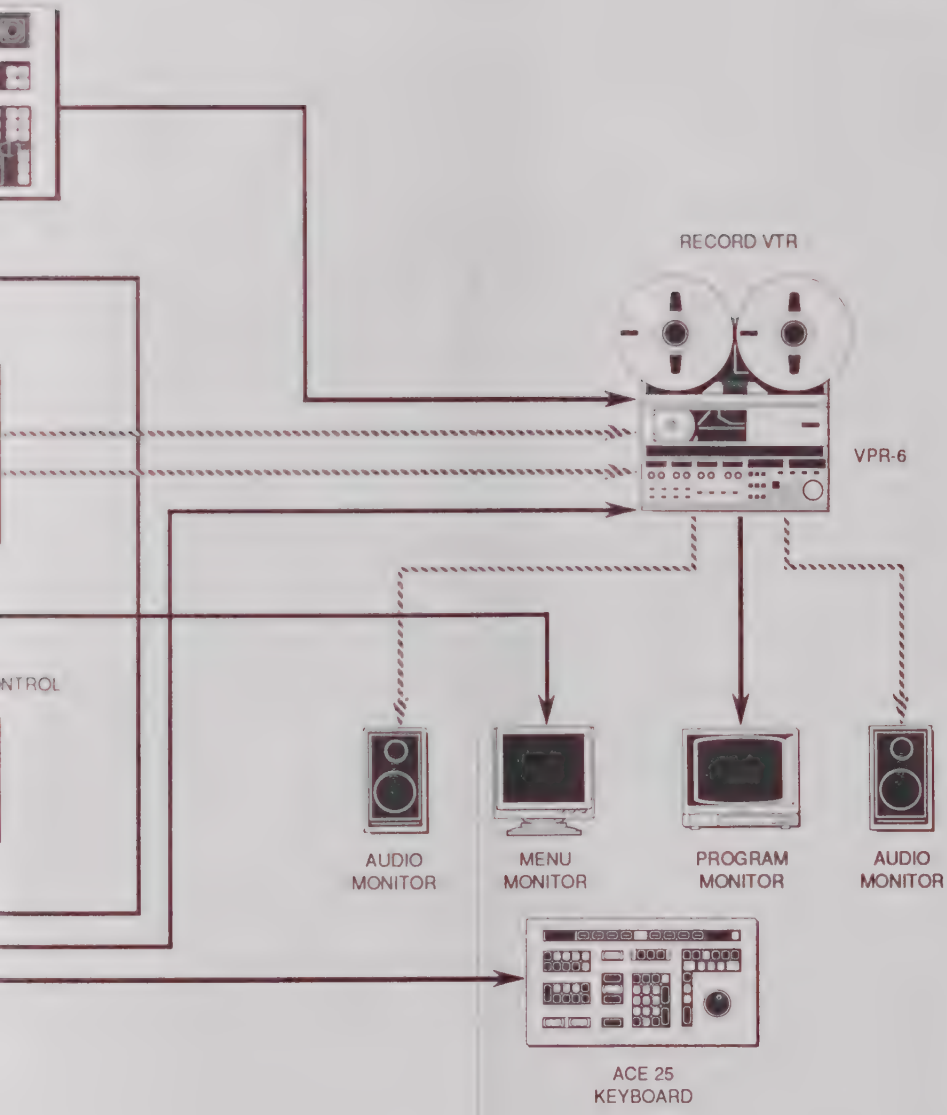
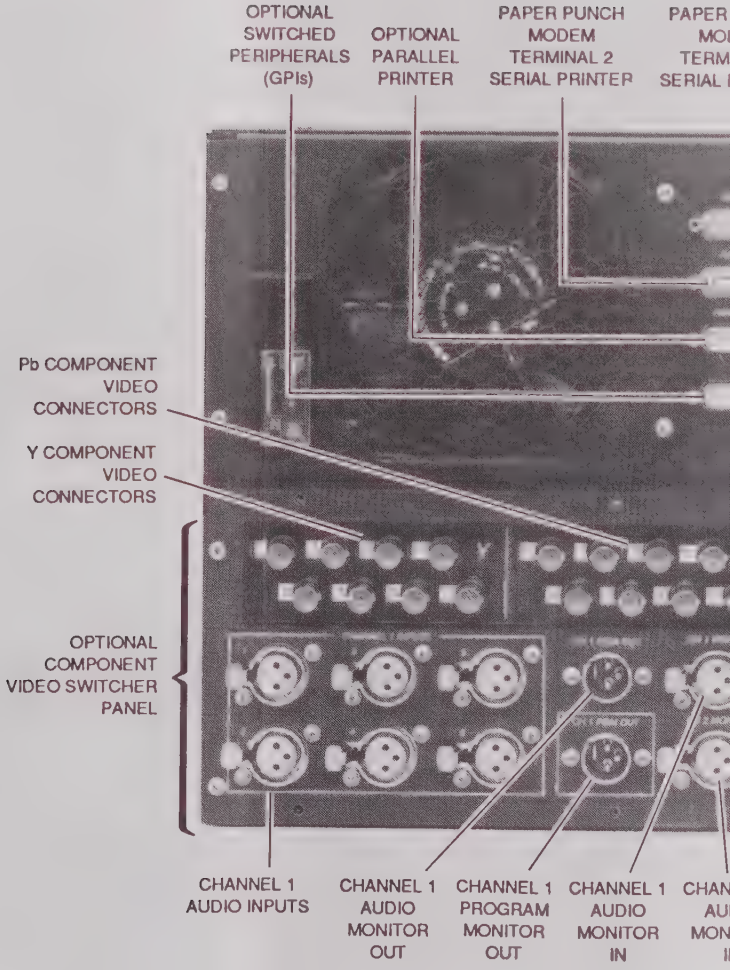



**Figure A-5.**
**ACE 25 Configuration with External Video Switcher and External Audio Mixer**


OPTIONAL SWITCHED PERIPHERALS (GPIs)
OPTIONAL PARALLEL PRINTER
PAPER PUNCH MODEM TERMINAL 2 SERIAL PRINTER
PAPER
MO
TERM
SERIAL
Pb COMPONENT VIDEO CONNECTORS
Y COMPONENT VIDEO CONNECTORS
OPTIONAL COMPONENT VIDEO SWITCHER PANEL
CHANNEL 1 AUDIO INPUTS
CHANNEL 1 AUDIO MONITOR OUT
CHANNEL 1 PROGRAM MONITOR OUT
CHANNEL 1 AUDIO MONITOR IN
CHAN
AU
MON

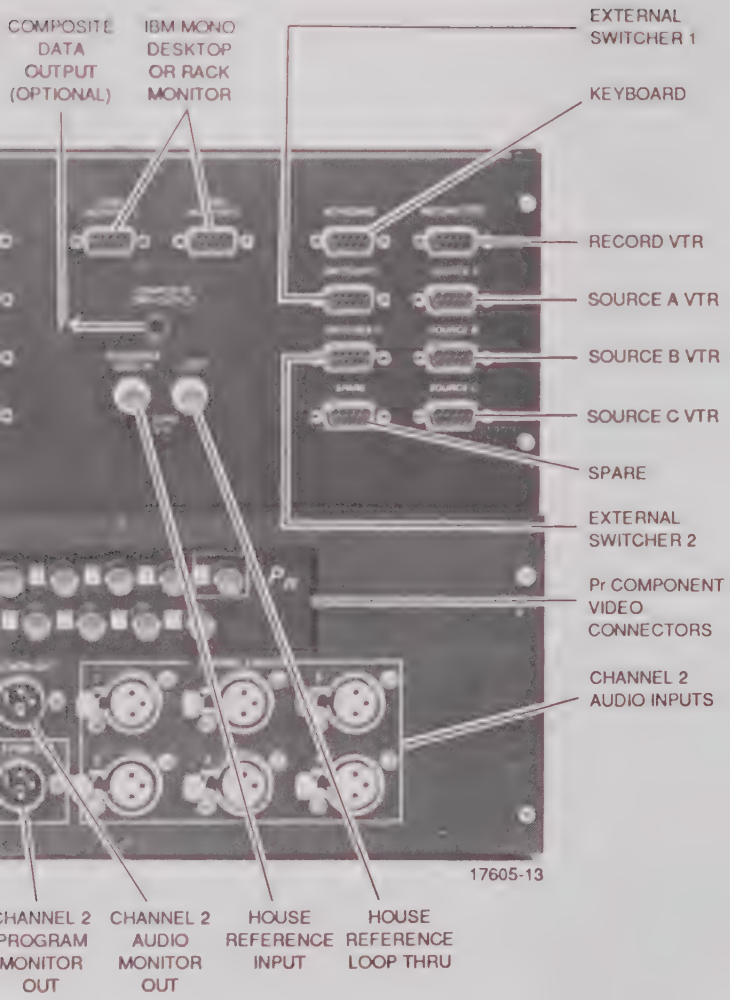



**Figure A-6.**
**Edit Controller, Rear Connector Panel**

## A-10 Data Monitor Connection

Connect the data monitor to the back of the edit controller chassis using the monitor extension cable. Use the rear panel connection marked DATA MONITOR 1. Although this cable appears to be a standard 9-pin "D" connector, it is *not* an RS-422 serial communications cable. ACE 25's data monitor output provides a TTL video signal typical of PC computers. This type of signal enables ACE 25 to display menu data, VU meters, and EQ bar graphs in an eye-pleasing high resolution manner. However, this signal is not composite video. You *cannot* route this signal through a standard video distribution amplifier.

A second data monitor output is available in case you want to have a second menu display in the tape room or another part of the edit bay. Use the rear panel connector marked DATA MONITOR 2.

## A-11 Keyboard Connection

Connect the keyboard to the back of the controller unit using the RS-422 keyboard extension cable. Use the rear panel connector marked KEYBOARD.

## A-12 VTR Connection

Connect VTRs to the back of the edit controller chassis using RS-422 interface cables, and the desired VTR connector port. These ports are marked SOURCE A, SOURCE B, SOURCE C, and RECORD. VTRs are assigned to these RS-422 ports via software in ACE 25's System Initialization menus.

In a typical configurations, VTR A is the VTR physically located the farthest to the left, or on top if rack-mounted. The other source VTRs follow in order with the Record VTR on the far right, or the bottom if rack-mounted. Adhere to the convention at your facility. See Figures A-7 and A-8 for configuration examples.

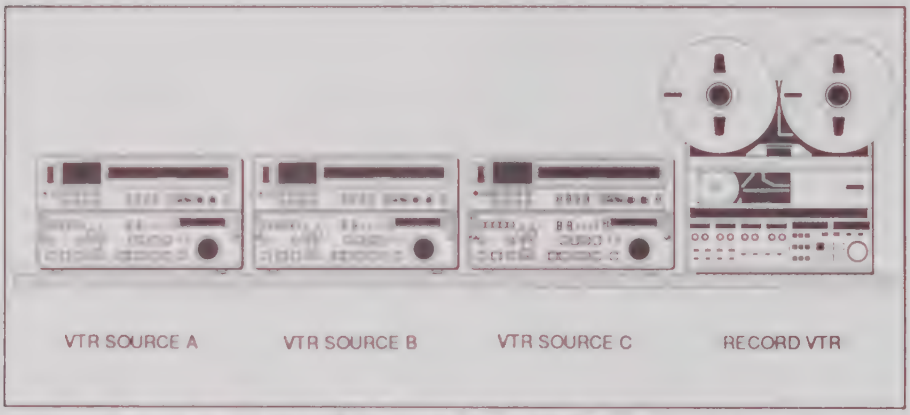



Figure A-7. Typical Editing Table Top VTR Configuration

## A-13 Spare Port Connection

The spare port allows for easy use of an alternate VTR, and using the hardware configuration menus, this "spare" VTR can be assigned any letter (R, A, B, or C). For example, it may be useful to have a Betacam VTR interfaced into a 3/4 in. system or vice versa if you occasionally get a tape in a different format. Similarly, in an all-Betacam system, it may be useful to be able to patch in a 1 in. VTR.

Even though the ACE 25 controls only four VTRs at any given time, a fifth VTR can be connected and switched into place using the hardware configuration setups. In this case, it is helpful to store different hardware configurations on disk to simplify the changeover; one configuration with the normal complement of VTRs, a second with the spare VTR configured. Connect the spare port VTR in the same way as the other source inputs.

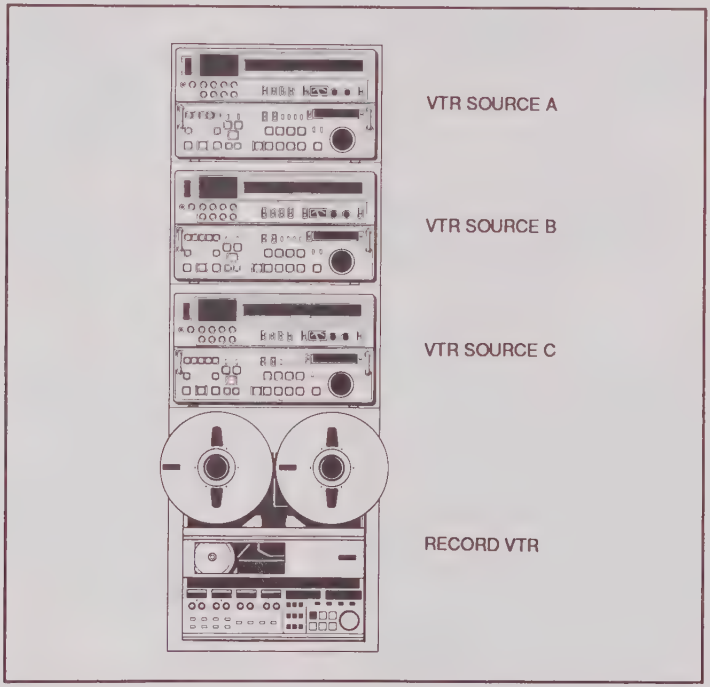



**Figure A-8. Typical Editing Rack-Mount VTR Configuration**

## A-14 External Switcher Connection

ACE 25 can be used with external audio and video switchers, such as the Grass Valley GVG-100, the Ampex Penguin (Dedicated Audio/Video Switcher), and the Ampex Vista™ production switcher. There are two RS-422 switcher connections (SWITCHER 1, SWITCHER 2) on ACE 25's rear chassis panel (9-pin "D"): one for an external audio switcher and one for an external video switcher. External switchers are assigned to these RS-422 ports via software in ACE 25's System Initialization menus. Switcher crosspoints are also assigned in the System Initialization menus.

## A-15 RS-232 Serial Device Connection

ACE 25 provides two RS-232 Serial Ports (RS-232 SERIAL 1, RS-232 SERIAL 2) with adjustable baud rates for connecting peripheral devices. Baud rates are assigned to these ports via software in ACE 25's Engineer Option menus.

## A-16 Parallel Printer Connection

ACE 25 provides a port for a parallel printer. It is set up for a Standard IBM Printer Interface, 25 pin "D."

## A-17 GPI Device Connection

ACE 25 provides four independent GPI (General Purpose Interface) ports on a single 25 pin "D" connector. These ports are provided to trigger external devices, such as an audio cart machine or a character generator. Ten GPI triggers can be programmed per edit, the GPI pulse width can be set, and a single GPI channel can be pulsed more than once during a single edit. Full GPI trigger data is listed in the EDL (Edit Decision List). Figure A-9 shows the pin connections for the GPI connector and the GPI in a typical application.

## A-18 Reference Video Connection

It is imperative that you provide the ACE 25 edit system and all VTRs with a clean, stable reference signal. Reference black is recommended. This signal should be generated from a professional sync generator, or alternatively should be available as a stable feed from your house distribution system. It is *not* recommended that this reference signal originate from a source VTR in the edit suite.

The Edit Controller Chassis, any external switchers, and all VTRs in the system each require an individual reference video feed from the reference DA (Distribution Amplifier). It is *not* recommended that you loop reference video from machine to machine.

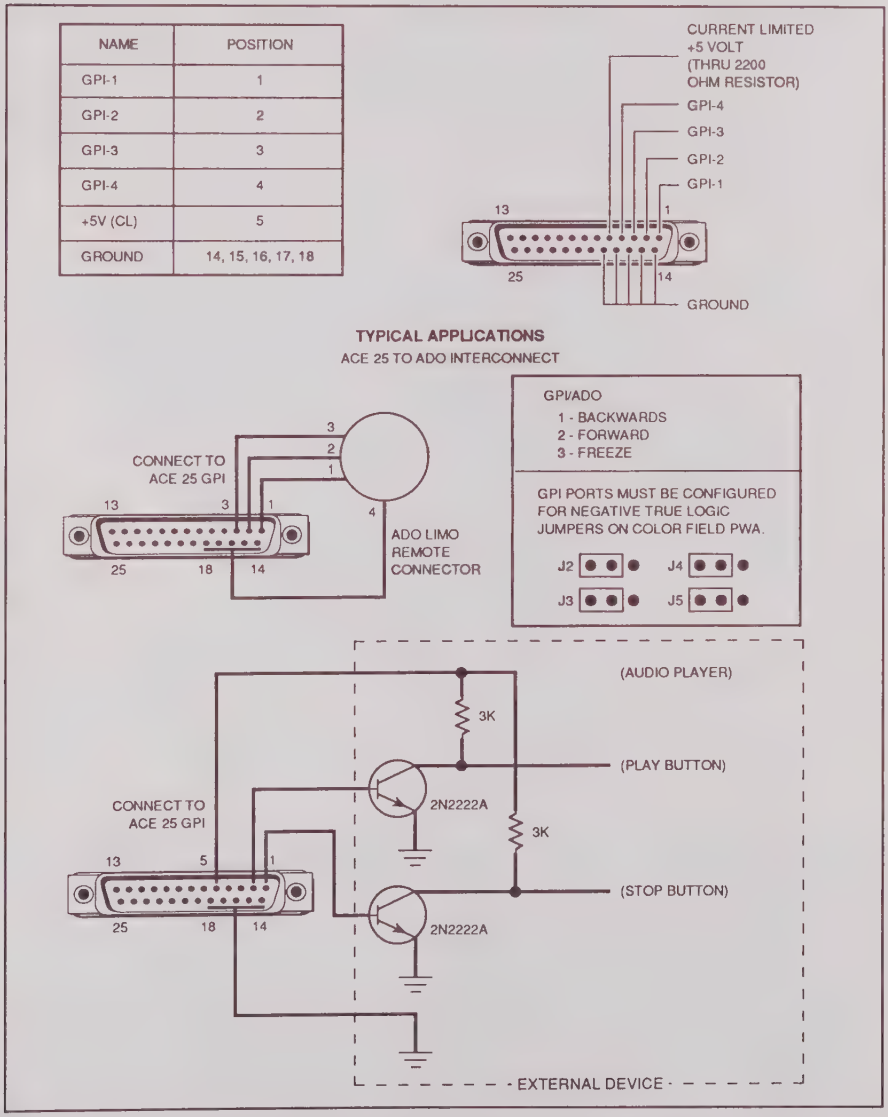



Figure A-9. GPI Connector Interface Diagram

## A-19 INTERNAL SWITCHERS

Located below the editing electronics in the edit controller chassis are two slots for optional internal switchers. If you have ordered internal switchers with your system from the factory, the boards will already be installed. If you want to add internal switchers later, they should be installed by a field service engineer or your facility engineer with guidance from the factory.

The full internal switcher complement includes a single board audio switcher and a single board video switcher in either composite or component formats. A switcher interface kit, which includes rear chassis I/O (input/output) panel and extender board, is required for internal switcher operation. The switcher interface kit can be factory or field installed.

In combination with both internal and external switchers, many unique and flexible configurations of ACE 25 are possible, including:

- Basic ACE 25 with internal audio switcher
- Basic ACE 25 with internal composite video switcher
- Basic ACE 25 with internal component video switcher
- Basic ACE 25 with both audio and video internal switchers
- Basic ACE 25 with internal audio switcher and external video switcher
- Basic ACE 25 with internal video switcher and external audio switcher
- Basic ACE 25 with external video and audio switchers

Internal switcher control is assigned via software in ACE 25's Hardware Configuration menus. Switcher crosspoints are also assigned in the Hardware Configuration menus.

### A-20 Internal Audio Switcher

The ACE 25 optional internal audio switcher, shown in Figure A-10, controls the audio from three source VTRs, three auxiliary sources, silent (audio "black"), and an internal tone generator. Two channels of audio are supported on a basic A/B bus mix system. The audio switcher controls cuts, dissolves, and split audio edits. Three bands of equalization (EQ) are also controlled. The

audio signals and EQ settings are brought to the menu monitor and displayed via high-resolution VU meters and bar graphs. The ACE 25's shuttle knob is the only control required to set input levels, output levels, monitor levels, and EQ settings.

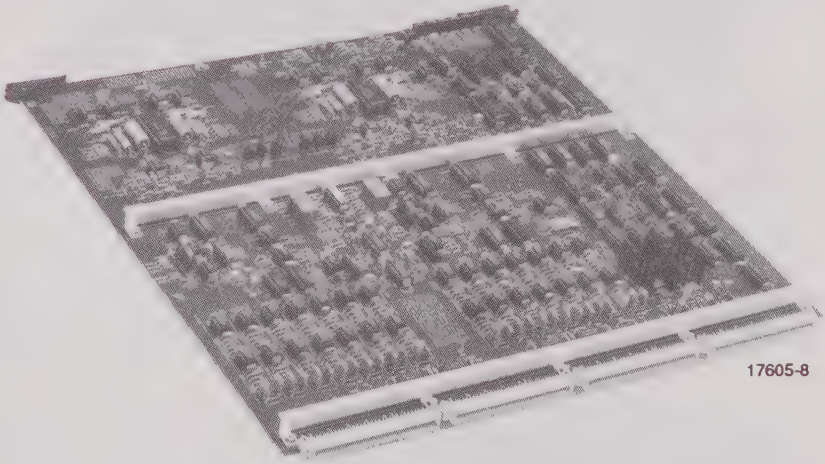



Figure A-10. Internal Audio Switcher

## A-21 Internal Component Video Switcher

The ACE 25 optional internal component video switcher, shown in Figure A-11, controls the video from three source VTRs, three auxiliary sources, and video black. The component video switcher controls cuts, dissolves, full split video capability, and a single key channel in a basic A/B bus mix system. The component switcher can also perform component chroma keys. The ACE 25's shuttle knob is the only control required to set manual fader position, A/B bus video mix levels, key clip levels, key gain levels, and component chroma key hue settings.

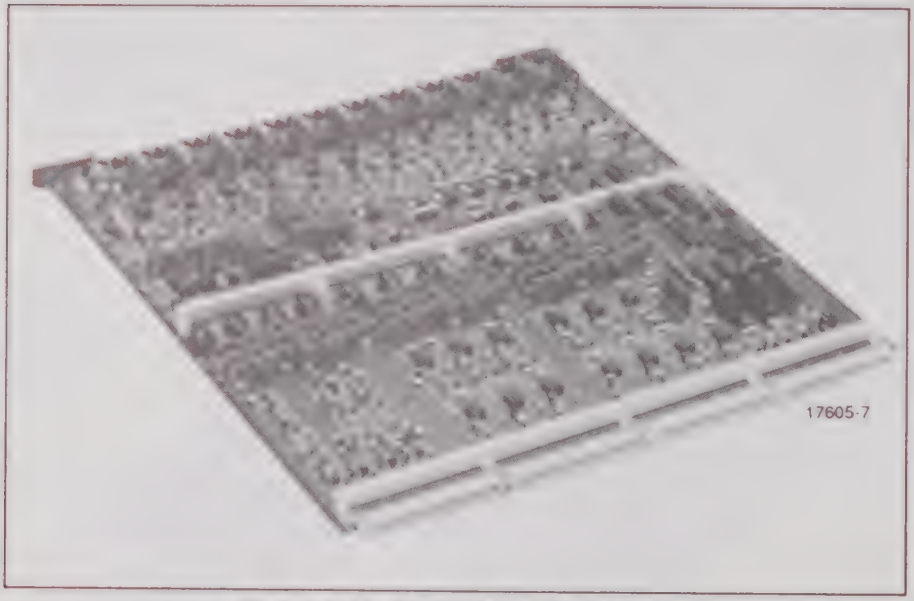



Figure A-11. Internal Video Switcher

## A-22 Internal Composite Video Switcher

The ACE 25 optional internal composite video switcher controls three source VTRs, three auxiliary sources, and video black. The composite video switcher controls cuts, dissolves, full split video capability, and a single key channel in a basic A/B bus mix system. The ACE 25's shuttle knob is the only control required to set manual fader position, A/B bus video mix levels, key clip levels, and key gain levels.

## A-23 SYSTEM VOLTAGE CHANGEOVER

The ACE 25 system can operate from power supplying either of two voltage ranges, 90-132 Vac or 180-264 Vac; 50 or 60 Hz line frequency, single phase. The keyboard unit, the monitor, and the edit controller unit must be adjusted for the voltage range of the supply power. These voltage changeover adjustment procedures are provided in the following paragraphs.

## A-24 Keyboard Line Voltage Select

Check keyboard unit to verify that it is set up for the line voltage used at the installation site. Keyboard unit is capable of accepting 120V or 240V power. Position of small voltage changeover circuit board inserted in slot behind fuse holder assembly on the rear panel determines voltage that can be applied to keyboard unit. Changeover circuit board has white plastic stem that protrudes through one of four holes in fuse assembly cover plate. Holes are marked 100V, 120V, 220V, and 240V. Voltage setting is indicated by tip of stem protruding through marked hole in fuse assembly cover plate. Note that only 120V and 240V positions are used.

Check that keyboard unit is configured for the voltage available at the installation site. At sites using 120V, tip of white plastic stem should appear in the hole marked 120V. At sites using 240V, stem should appear in the hole marked 240V.

If it is necessary to re-configure the changeover circuit board for site voltage, proceed as follows:

1. Unplug power cord at keyboard rear panel.

2. Insert small, flat blade screwdriver into slot provided in fuse holder assembly and pry assembly from the keyboard. See Figure A-12.

3. Use needle nose pliers to remove changeover circuit board from the keyboard unit. See Figure A-13.

4. Position changeover circuit board so that correct line voltage is visible (120V or 240V) on outer edge of board. Place white plastic stem to outer edge of board.

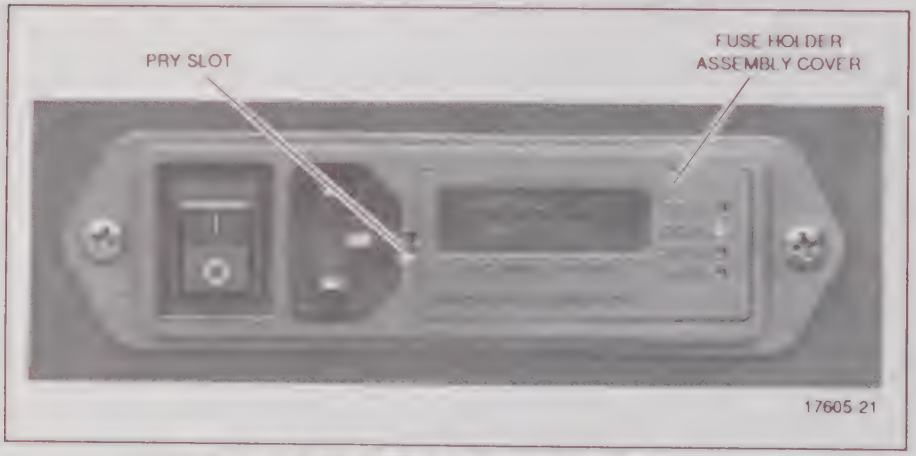



Figure A-12. ACE 25 Keyboard, Rear Panel

5. Re-install changeover circuit board into keyboard unit.

6. Install correct fuse into fuse holder. Use 1A, slow-blow fuse with 120V; use 0.5A, slow-blow fuse with 240V.

7. Re-install fuse holder into keyboard unit.

8. Check that white plastic stem protrudes through hole in fuse assembly cover marked with appropriate voltage.

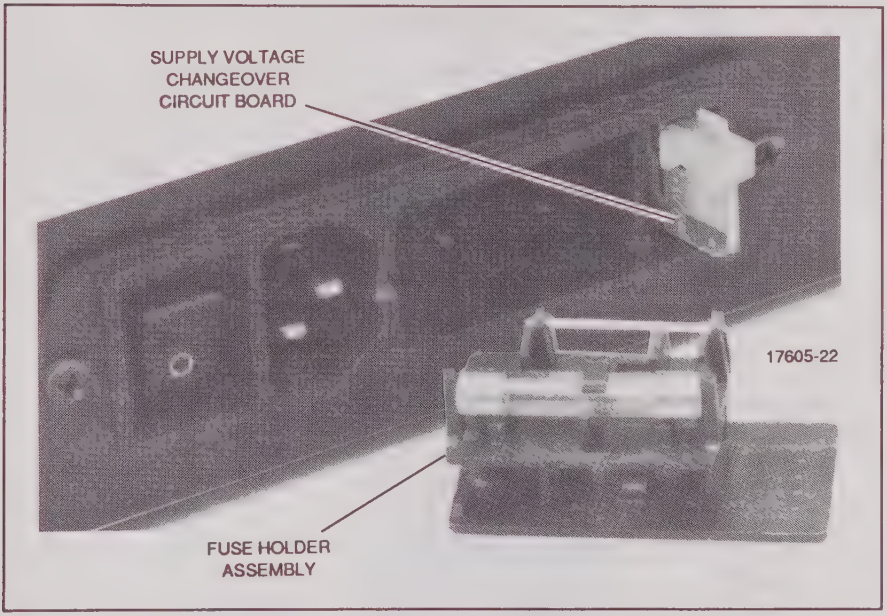



**Figure A-13.**
**ACE 25 Keyboard, Fuse Holder, and Voltage Changeover Circuit Board**

## A-25 Edit Controller Line Voltage Select

Check edit controller unit to verify that it is set up for the line voltage used at the installation site. Edit controller unit is capable of accepting 120V or 240V power. Position of small voltage changeover circuit board inserted in slot next to fuse on the rear panel determines voltage that can be applied. Changeover circuit board has printed markings of 120 and 240. Unit is set for 120V when the marking "120" is towards the top. Unit is set for 240V when the marking "240" is towards the top.

If it is necessary to re-configure the changeover circuit board, proceed as follows:

1. Remove power cord and slide plastic cover up over fuse connector as shown in Figure A-14.
2. Pull small handle to remove fuse.
3. Insert needle nose pliers in hole in circuit board and remove circuit board.
4. Position board so that correct line voltage can be read (120V or 240V) as board is re-inserted.
5. Install correct fuse and close fuse cover. Use 3A slow-blow fuse with 120V power. Use 3A slow-blow fuse with 240V power.

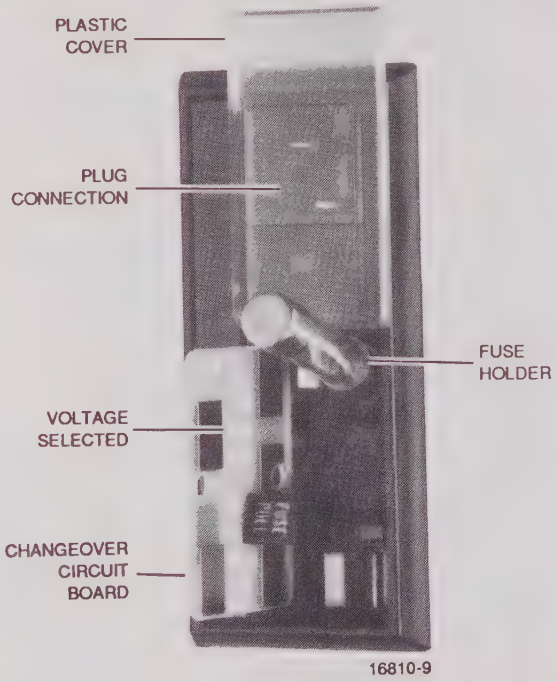



**Figure A-14.**
**ACE 25 Edit Controller Fuse Holder and Voltage Changeover Circuit**

## A-26 Data Monitor and Line Voltage Select

Before plugging monitor power cord into power, ensure monitor has been set up for the line voltage used at the installation site. It can be set up to use nominal 110 Vac or 220 Vac, 50 or 60 Hz. A jumper wire, inside the unit can be set to allow the monitor to operate within either of two voltage ranges: 95 - 135 Vac or 190 - 270 Vac.

**WARNING**

**EXTREMELY HIGH AND HAZARDOUS VOLTAGES EXIST INSIDE THE MONITOR. CRT MAY RETAIN CHARGE FOR INDEFINITE PERIOD OF TIME IF NOT DISCHARGED.**

Check voltage jumper wire for correct position as follows:

1. Ensure that monitor power cord is unplugged from ac receptacle

2. Remove six screws securing enclosure to chassis and remove enclosure. See Figure A-15.

3. Remove two screws securing electronics chassis back and away from the screen assembly. See Figure A-16.

4. Wire jumper can be placed in either of two positions: 110 Vac (nominal) and 220 Vac (nominal). See Figures A-17 and A-18. Ensure that input voltage jumper plug is in correct position for unit to operate from local power source. If necessary, move input jumper plug to appropriate jack.

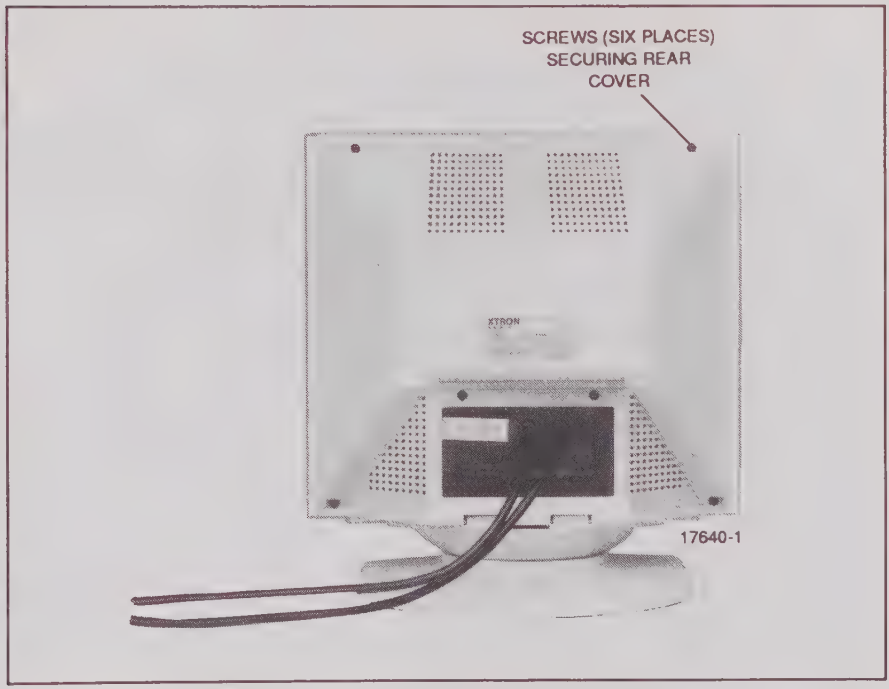



**Figure A-15. ACE 25 Monitor, Rear View**

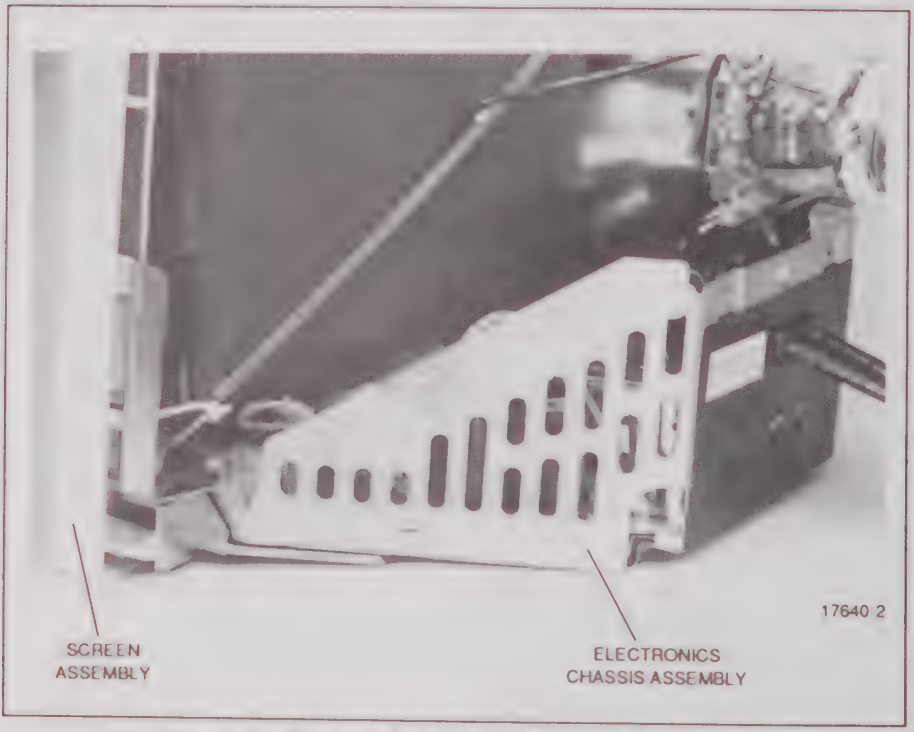



Figure A-16. ACE 25 Monitor, Electronics Chassis

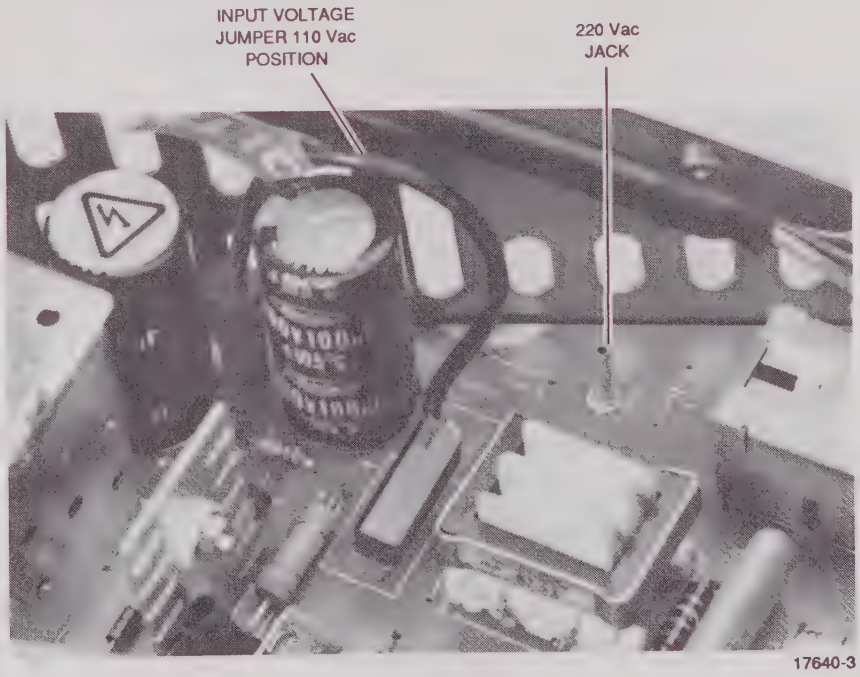



**Figure A-17. Monitor Input Voltage Jumper, 110 Vac Position**

Figure A-18. Monitor Input Voltage Jumper, 220 Vac Position

## A-27 INTERNAL COMPONENT VIDEO SWITCHER ALIGNMENT

Systems having an internal component video switcher must be adjusted at the installation site to meet video pulse timing requirements. Adjust as follows:

1. Ensure that the components of each video input trio, $P_r$, $P_b$, and Y enter the Edit Controller correctly timed relative to each other. No adjustments can be made within the Edit Controller to meet this specification.

2. Ensure that house reference is within 1 µs of all input video. No adjustments can be made within the Edit Controller to meet this specification.

3. Using a dual trace oscilloscope:

   a. Connect CHAN 1 to Video Switcher Board TP 97 YA VIDC.

   b. Connect CHAN 2 to Video Switcher Board TP 101 Y BLK VIDC.

   c. Set Mode to Delayed.

   d. Set Sweep to 20 ns per division.

   e. Set Trigger to External, or Video Switcher Board TP 97, YA VIDC.

   f. Observe that 50% point of leading edge of signal on TP 97, VIDC lines up with 50% point of leading edge of signal on TP 101, Y BLK VIDC.

   g. Adjust Video Timing Board R18, to meet specification.

## A-28 COLOR FIELD 1 DETECTOR ADJUSTMENTS

The Color Field 1 Detector adjustment procedure is the same for NTSC, PAL, and PAL-M. A 1V black burst or bars video signal is required. For reference, an independent field 1 reference signal from a sync generator or VTR is needed.

**Note**

**Ensure input video is terminated properly before starting adjustments, as changes in signal amplitude cause changes in SC/H phase relationship.**

## A-29 STANDARD JUMPERS

The TV line standards jumpers J7 and J9 must be set to the proper configuration. Figure A-19 shows jumpers set for 625 PAL.

Ensure the Vertical Interrupt jumper J8 is in place, A-B.

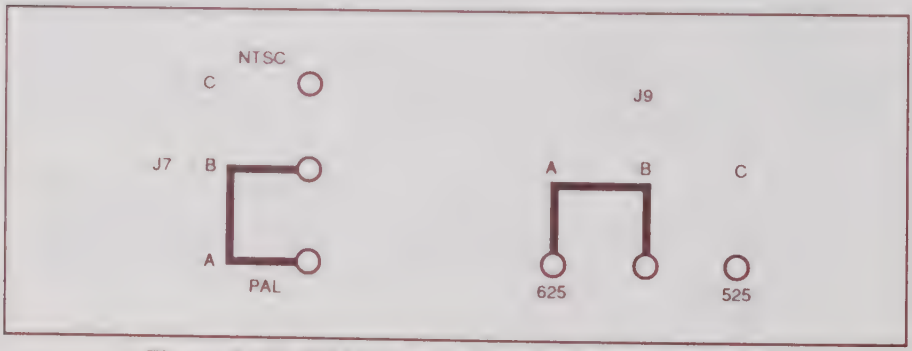



**Figure A-19. TV Line Standard Jumpers, PAL Setting**

## A-30 HYSTERESIS ADJUSTMENT, ARTWORK "B" ONLY

Early "B" version artworks have a 200Ω potentiometer R6, which was used to slightly alter the hysteresis in the burst squaring comparator U13. If this potentiometer has not been removed, it should be set so that the negative-going burst gate pulse applied to U13 pin 5 goes down to +0.5V or lower during the burst interval. Production PWAs beginning with artwork "C" do not have this adjustment.

## A-31 SC/H PHASE ADJUSTMENTS

To pick a nominal "center point" to start, set dip-switch SW-1 sections 1 & 2 to ON and section 3 to OFF. SW-1 section 4 is not connected. Switch SW-1 selects 1 of 8 delay increments to put the phase adjust pot R9 near the center of its range. Set the 20-turn pot R9 near mid-range and observe the burst at R4 (along top edge of PWA). Burst amplitude will be between 350 and 500 mV.

Adjust switch SW-1 to bring the Field-1 pulse at TP-6 into agreement with the reference field 1 signal. The green "Edge Centering" LED and the amber "Phase Error" LED may be on, off, or blinking. Continue to adjust SW-1 to minimize the amber LED "on" while maintaining the proper field 1 relationship with the field 1 reference signal. Final adjustment is made using phase adjust pot R9. Here, R9 is adjusted for maximum green LED "on." If the end of R9's range is reached , the next setting on SW-1 will allow re-centering R9.

## A-32 CONFIGURING ACE 25

Paragraphs A-33 through A-65 provide configuration and set-up instructions for ACE 25 in the following television standards and voltages:

- PAL-M, 120V and 240V
- NTSC, 120V and 240V
- PAL, 120V and 240V

## A-33 ACE 25 Set-up Instructions, PAL-M Configuration

Paragraphs A-34 through A-43 provide configuration and set-up instructions for ACE 25 in the PAL-M standard.

### A-34 Color Field Detector PWA 1431454

Set the following jumpers:

- J7, Side Opposite NTSC
- J9, 525

### A-35 Video Timer PWA 1431620

Set the following jumpers:

- J5, 525
- J6, PAL
- J7, 525

### A-36 120 Volt Set-up Instructions

The following paragraphs provide PAL-M 120V set-up instructions.

**A-37 Edit Controller Assembly, 1430873, Rear Section, Fuse Box.** Set Edit Controller assembly voltage as follows:

1. Position printed circuit so that 120 silkscreen is fully visible.
2. Install 3A slow-blow fuse.
3. Re-check 120V setting. Edit Controller set-up is complete.

**A-38 Keyboard, 1431701, Rear Section, Fuse Box.** Set Keyboard assembly voltage as follows:

1. Open voltage selection compartment with small screwdriver.
2. Install 1A slow-blow fuse.
3. Position printed circuit so that 120V is indicated when cover is replaced.
4. Replace cover.
5. Re-check 120V setting. Keyboard set-up is complete.

**A-39 Monitor Assembly, 1430983-AA.** Set Monitor assembly voltage as follows:

1. Remove six screws holding plastic case together.
2. Separate case, and remove back part.
3. Remove two small screws holding back electronics compartment to the front CRT faceplate assembly.
4. Carefully separate the electronics compartment from the front assembly. Do not disconnect any wires.
5. Locate voltage selection wire (W10).
6. Place connector end of the voltage selection wire onto the post on PCB marked 110V.

7. Place label on voltage selection wire indicating 110V.

8. Carefully re-fit the electronics compartment onto front assembly.

9. Replace two screws holding electronics compartment to the front.

10. Re-fit back of the case onto front assembly.

11. Replace six screws. Monitor set-up is complete.

## A-40 240 Volt Set-up Instructions

The following paragraphs provide PALM 240V set-up instructions.

**A-41 Edit Controller Assembly, 1430873, Rear Section, Fuse Box.** Set Edit Controller assembly voltage as follows:

1. Position printed circuit so that 240 silkscreen is fully visible.

2. Install 1.5A slow-blow fuse.

3. Re-check 240V setting. Edit Controller set-up is complete.

**A-42 Keyboard, 1431701, Rear Section, Fuse Box.** Set Keyboard assembly voltage as follows:

1. Open voltage selection compartment with small screwdriver.

2. Install 0.5A slow-blow fuse.

3. Position printed circuit so that 240V is indicated when cover is replaced.

4. Replace cover.

5. Re-check 240V setting. Keyboard set-up is complete.

**A-43 Monitor Assembly, 1430983-AB.** Set Monitor assembly voltage as follows:

1. Remove six screws holding plastic case together.
2. Separate case, and remove back part.
3. Remove two small screws holding back electronics compartment to the front CRT faceplate assembly.
4. Carefully separate the electronics compartment from the front assembly. Do not disconnect any wires.
5. Locate voltage selection wire (W10).
6. Place connector end of the voltage selection wire onto the post on PCB marked 220V.
7. Place label on voltage selection wire indicating 220V.
8. Carefully re-fit the electronics compartment onto front assembly.
9. Replace two screws holding electronics compartment to the front.
10. Re-fit back of the case onto front assembly.
11. Replace six screws. Set-up is complete.

## A-44 ACE 25 Set-up Instruction, NTSC Configuration

Paragraphs A-45 through A-54 provide configuration and set-up instructions for ACE 25 in the NTSC standard.

## A-45 Color Field Detector PWA, 1431454

Set the following jumpers:

- J7, Side Opposite NTSC
- J9, 525

## A-46 Video Timer PWA, 1431620

Set the following jumpers:

- J5, 525
- J6, NTSC
- J7, 525

## A-47 120 Volt Set-up Instructions

The following paragraphs provide NTSC 120V set-up instructions.

**A-48 Edit Controller Assembly, 1430873, Rear Section, Fuse Box.** Set Edit Controller assembly voltage as follows:

1. Position printed circuit so that 120 silkscreen is fully visible.
2. Install 3A slow-blow fuse.
3. Re-check 120V setting. Edit Controller set-up is complete.

**A-49 Keyboard, 1431701, Rear Section, Fuse Box.** Set Keyboard assembly voltage as follows:

1. Open voltage selection compartment with small screwdriver.
2. Install 1A slow-blow fuse.
3. Position printed circuit so that 120V is indicated when cover is replaced.
4. Replace cover.
5. Re-check 120V. Keyboard set-up is complete.

**A-50 Monitor Assembly, 1430983-AA.** Set Monitor assembly voltage as follows:

1. Remove six screws holding plastic case together.
2. Separate case, and remove back part.
3. Remove two small screws holding back electronics compartment to the front CRT faceplate assembly.
4. Carefully separate the electronics compartment from the front assembly. Do not disconnect any wires.
5. Locate voltage selection wire (W10).
6. Place connector end of the voltage selection wire onto the post on PCB marked 110V.
7. Place label on voltage selection wire indicating 110V.
8. Carefully re-fit the electronics compartment onto front assembly.
9. Replace two screws holding electronics compartment to the front.
10. Re-fit back of the case onto front assembly.
11. Replace six screws. Monitor set-up is complete.

## A-51 240 Volt Set-up Instructions

The following paragraphs provide the NTSC 240V set-up instructions.

**A-52 Edit Controller Assembly, 1430873, Rear Section, Fuse Box.** Set Edit Controller assembly voltage as follows:

1. Position printed circuit so that 240 silkscreen is fully visible.
2. Install 1.5A slow-blow fuse.
3. Re-check 240V setting. Edit Controller set-up is complete.

A-53 Keyboard, 1431701, Rear Section, Fuse Box. Set Keyboard assembly voltage as follows:

1. Open voltage selection compartment with small screwdriver.
2. Install 0.5A slow-blow fuse.
3. Position printed circuit so that 240V is indicated when cover is replaced.
4. Replace cover.
5. Re-check 240V setting. Keyboard set-up is complete.

A-54 Monitor Assembly, 1430983-AB. Set Monitor assembly voltage as follows:

1. Remove six screws holding plastic case together.
2. Separate case, and remove back part.
3. Remove two small screws holding back electronics compartment to the front CRT faceplate assembly.
4. Carefully separate the electronics compartment from the front assembly. Do not disconnect any wires.
5. Locate voltage selection wire (W10).
6. Place connector end of the voltage selection wire onto the post on PCB marked 220V.
7. Place label on voltage selection wire indicating 220V.
8. Carefully re-fit the electronics compartment onto front assembly.
9. Replace two screws holding electronics compartment to the front.
10. Re-fit back of the case onto front assembly.
11. Replace six screws. Set-up is complete.

## A-55 ACE 25 Set-up Instruction, PAL Configuration

Paragraphs A-56 through A-65 provide configuration and set-up instructions for ACE 25 in the PAL standard.

## A-56 PWA, Color Field Detector, 1431454

Set the following jumpers:

- J7, Side Opposite NTSC
- J9, 625

## A-57 PWA, Video Timer, 1431620

Set the following jumpers:

- J5, 625
- J6, PAL
- J7, 625

## A-58 120 Volt Set-up Instructions

The following paragraphs provide the PAL 120V set-up instructions.

**A-59 Edit Controller Assembly, 1430873, Rear Section, Fuse Box.** Set Edit Controller assembly voltage as follows:

1. Position printed circuit so that 120 silkscreen is fully visible.
2. Install 3A slow-blow fuse.
3. Re-check 120V setting. Edit Controller set-up is complete.

A-60 Keyboard, 1431701, Rear Section, Fuse Box. Set Keyboard assembly voltage as follows:

1. Open voltage selection compartment with small screwdriver.
2. Install 1A slow-blow fuse.
3. Position printed circuit so that 120V is indicated when cover is replaced.
4. Replace cover.
5. Re-check 120V setting. Keyboard set-up is complete.

A-61 Monitor Assembly, 1430983-AA. Set Monitor assembly voltage as follows:

1. Remove six screws holding plastic case together.
2. Separate case, and remove back part.
3. Remove two small screws holding back electronics compartment to the front CRT faceplate assembly.
4. Carefully separate the electronics compartment from the front assembly. Do not disconnect any wires.
5. Locate voltage selection wire (W10).
6. Place connector end of the voltage selection wire onto the post on PCB marked 110V.
7. Place label on voltage selection wire indicating 110V.
8. Carefully re-fit the electronics compartment onto front assembly.
9. Replace two screws holding electronics compartment to the front.
10. Re-fit back of the case onto front assembly.
11. Replace six screws. Monitor set-up is complete.

## A-62 240 Volt Set-up Instructions

The following paragraphs provide the PAL 240V set-up instructions.

**A-63 Edit Controller Assembly, 1430873, Rear Section, Fuse Box.** Set Edit Controller assembly voltage as follows:

1. Position printed circuit so that 240 silkscreen is fully visible.
2. Install 1.5A slow-blow fuse.
3. Re-check 240V setting. Edit Controller set-up is complete.

**A-64 Keyboard, 1431701, Rear Section, Fuse Box.** Set Keyboard assembly voltage as follows:

1. Open voltage selection compartment with small screwdriver.
2. Install 0.5A slow-blow fuse.
3. Position printed circuit so that 240V is indicated when cover is replaced.
4. Replace cover.
5. Re-check 240V setting. Keyboard set-up is complete.

**A-65 Monitor Assembly, 1430983-AB.** Set Monitor assembly voltage as follows:

1. Remove six screws holding plastic case together.
2. Separate case, and remove back part.
3. Remove two small screws holding back electronics compartment to the front CRT faceplate assembly.
4. Carefully separate the electronics compartment from the front assembly. Do not disconnect any wires.
5. Locate voltage selection wire (W10).

6. Place connector end of the voltage selection wire onto the post on PCB marked 220V.

7. Place label on voltage selection wire indicating 220V.

8. Carefully re-fit the electronics compartment onto front assembly.

9. Replace two screws holding electronics compartment to the front.

10. Re-fit back of the case onto front assembly.

11. Replace six screws. Monitor set-up is complete.

# APPENDIX B

# TRANSFERRING EDLs

## B-1 INTRODUCTION

This appendix explains the various methods used to transfer an EDL between two ACE 25 systems or between ACE 25 and another editing system.

In transfering EDLs, the terms *list format* and *file format* refer to separate functions:

- *List Format* is the way an EDL is organized. CMX and SMPTE are two different list formats that ACE 25 supports.
- *File Format* is the way an EDL is written on disk. MS-DOS® and RT-11 are two different file formats; ACE 25 supports only the MS-DOS file format.

For example, ACE 25 can read CMX-340 EDLs contained within standard MS-DOS disk files, but *cannot* read CMX-340 EDLs contained on RT-11 formatted 3.5 in. disks.

ACE 25's ability to read and write MS-DOS disks, and transmit and receive SMPTE and CMX EDLs via the RS-232 serial ports, permits several methods for transferring EDLs from one location to another. Table B-1 summarizes these transfer methods and paragraphs B-2 through B-12 discuss them in detail.

Table B-1. EDL Transfer Methods

| Transfer Method | Transfer Medium | List Format | File Format | Transfer between ACE 25 and |
|---|---|---|---|---|
| Disk | 3.5 in. disk | SMPTE | MS-DOS | ACE 25 |
| Disk | 3.5 in. disk | CMX-340 | MS-DOS | ACE 25 |
| Disk | 3.5 in. disk | CMX-340 | MS-DOS | MS-DOS editors, such as GVG |
| Direct | RS-232 cable | SMPTE | No disk involved in transfer | ACE 25, other SMPTE format editors with RS-232 I/O |
| Direct | RS-232 cable | CMX-340 | No disk involved in transfer | ACE 25, Micro, 200, and other editors with RS-232 I/O |
| Modem | RS-232 | CMX-340 | No disk involved in transfer | ACE 25, Micro, 200, and other editors with RS-232 I/O |
| Paper Tape | RS-232 | CMX-340 | No disk involved in transfer | ACE 25, Micro, 200, and other editor with RS-232 I/O |
| Stand-alone 8 in. disk unit | RS-232 | CMX-340 | RT-11 on 8 in. | Standalone 8 in. disk unit, then to CMX 8 in. compatible system via 8 in. disk |

(Continued on next page)

Table B-1. EDL Transfer Methods (Continued)

| Transfer Method | Transfer Medium | List Format | File Format | Transfer between ACE 25 and |
|---|---|---|---|---|
| Stand-alone PC (1) | RS-232 | CMX-340 | MS-DOS | PC with software to convert MS-DOS to RS-232, then to editor with RS-232 I/O |
| Stand-alone PC (2) | RS-232 | CMX-340 | MS-DOS | PC with list management software (i.e., Turbo Trace), then to 8 in. disk or to editor with RS-232 I/O |

## B-2 EDL Transfer Using Disks—SMPTE List Format

This EDL transfer method uses ACE 25 3.5 in. disks as the EDL transfer medium. Using the MS-DOS file format, ACE 25 can read or write disks in SMPTE list format. This method is by far the simplest, and can be used between any two ACE 25 systems (see Figure B-1).

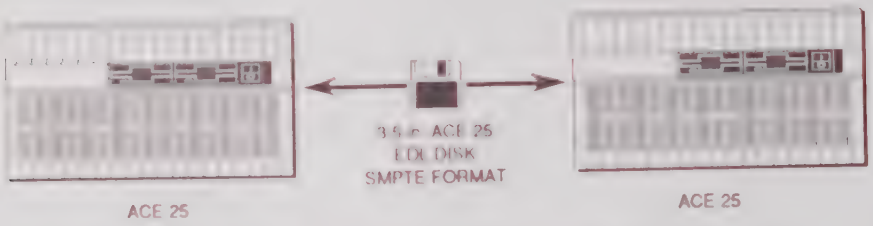



Figure B-1. EDL Transfer Using Disks—SMPTE List Format

## B-3 EDL Transfer to ACE 25 Using Disks—CMX List Format

This EDL transfer method uses ACE 25 3.5 in. disks as the transfer medium. Using the MS-DOS file format, ACE 25 can read or write disks in CMX-340 list format. This method can be used between any two ACE 25 systems (see Figure B-2). Unique EDL data contained in SMPTE list format but not in CMX-340 list format (i.e., EQ, border width, key level), is automatically translated into comments in CMX format.

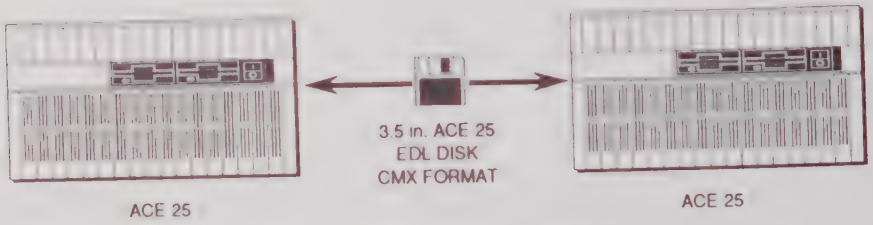



**Figure B-2. EDL Transfer Using Disks—CMX List Format**

## B-4 EDL Transfer to Other Systems Using Disks—CMX List Format

This EDL transfer method uses ACE 25 CMX-340 list format disks as the transfer medium. Use this method between ACE 25 and other MS-DOS based systems using 3.5 in. disks, such as GVG, which supports CMX-340 format (see Figure B-3). Unique data contained in SMPTE format but not in CMX-340 format is automatically translated into comments in CMX format.

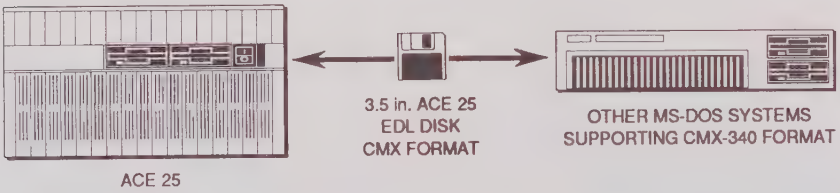



**Figure B-3. EDL Transfer to Other Systems Using Disks—CMX List Format**

## B-5 EDL Transfer Using Direct Cable—SMPTE List Format

This EDL transfer method uses RS 232 serial communications to transmit and receive SMPTE EDLs. No disk is involved in the transfer; both editing systems are cabled directly together. Use this method between two ACE 25 systems, between ACE 25 and ACE Standard, ACE Micro, and ACE 200, or between ACE 25 and other CMX-340 list format editors with RS-232 I/O capability (see Figure B-4). Unique SMPTE EDL data not supported by CMX-340 format is automatically translated into comments.

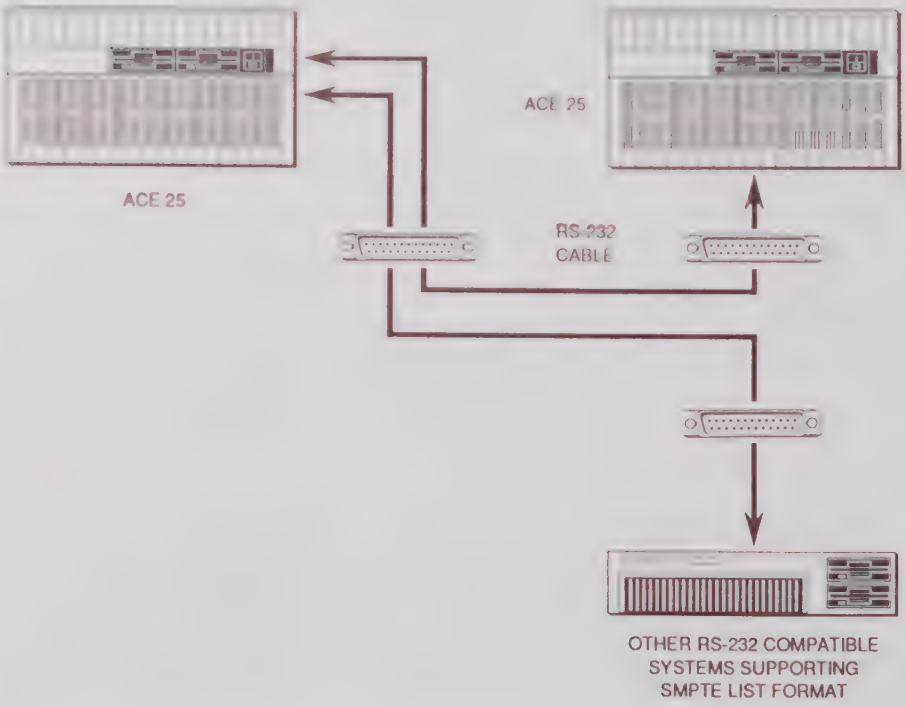



**Figure B-4. EDL Transfer Using Direct Cable—SMPTE List Format**

## B-6 EDL Transfer Using Direct Cable—CMX List Format

This EDL transfer method uses RS-232 serial communications to transmit and receive CMX-340 EDLs. No disk transfer is involved; both editing systems are cabled directly together. Use this method between two ACE 25 systems, between ACE 25 and ACE Standard, ACE Micro, and ACE 200, or between ACE 25 and other CMX-340 list format editors with RS-232 I/O capability (see Figure B-5). Unique SMPTE EDL data not supported by CMX-340 format is automatically translated into comments.

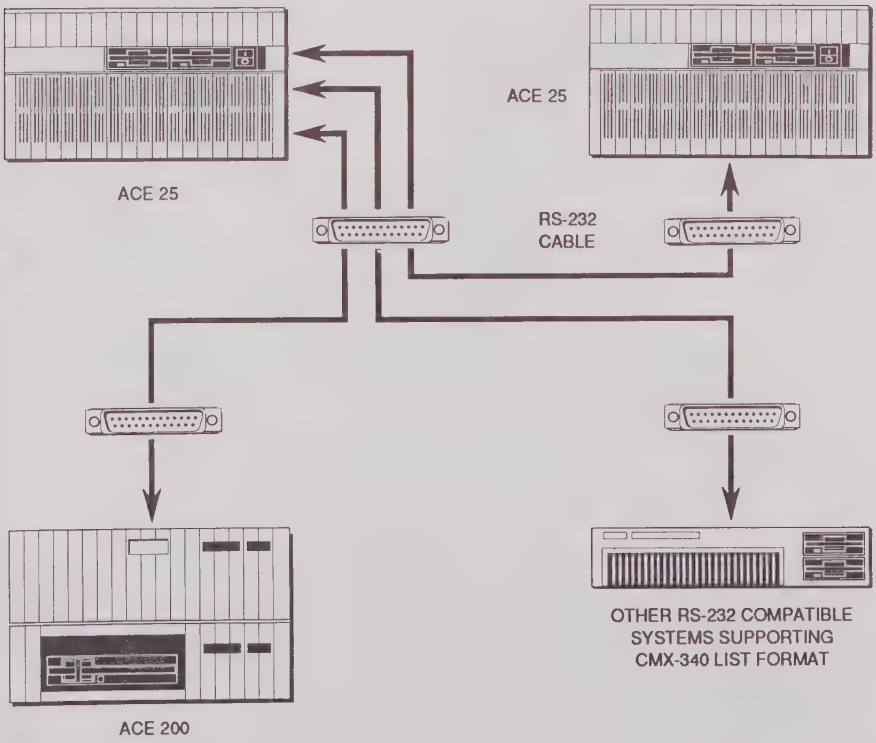



**Figure B-5. EDL Transfer Using Direct Cable—CMX List Format**

## B-7 EDL Transfer Using Modems—CMX List Format

This EDL transfer method uses RS-232 serial communications in conjunction with modems to transmit and receive CMX-340 EDLs. No disk transfer is involved; both systems use a modem at their respective ends. Use this method between two ACE 25 systems, between ACE 25 and ACE Standard, ACE Micro, and ACE 200, or between ACE 25 and other CMX-340 list format editors (see Figure B-6). Unique SMPTE EDL data not supported by CMX-340 is automatically translated into comments.

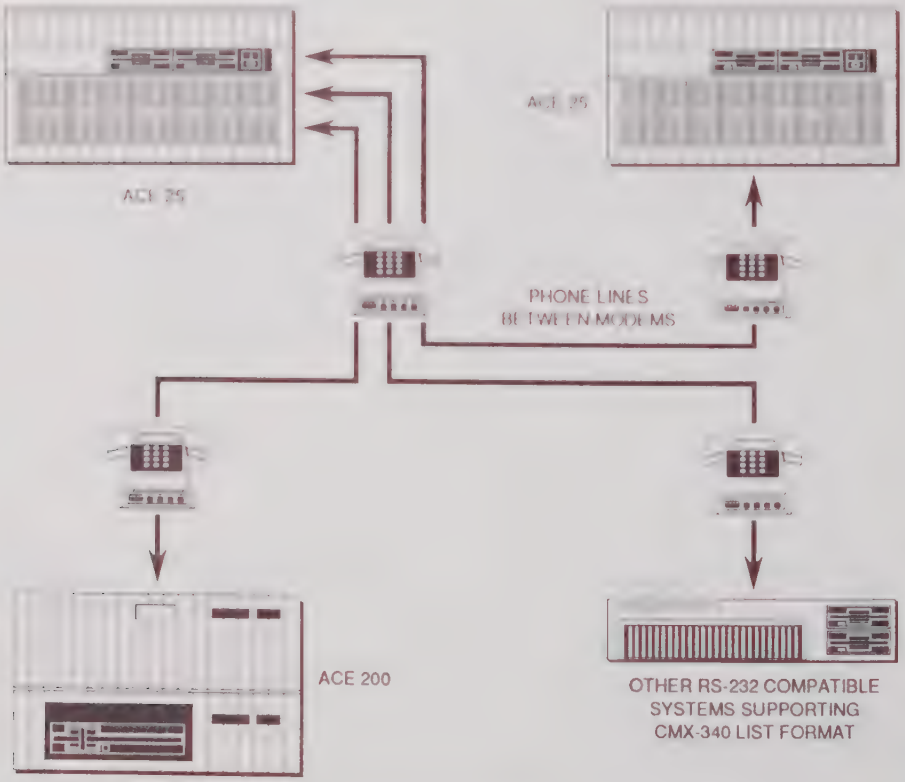



**Figure B-6. EDL Transfer Using Modems—CMX List Format**

## B-8 EDL Transfer Using Paper Tape—CMX List Format

This EDL transfer method uses RS-232 serial communications in conjunction with paper tape punch/readers to transmit and receive CMX-340 EDLs. No disk transfer is involved; both systems use a punch/reader at their respective ends. Use between two ACE 25 systems, between ACE 25 and ACE Standard, Micro, and 200, or between ACE 25 and other CMX-340 list format editors (see Figure B-7). Unique SMPTE EDL data not supported by CMX-340 format is translated into comments.

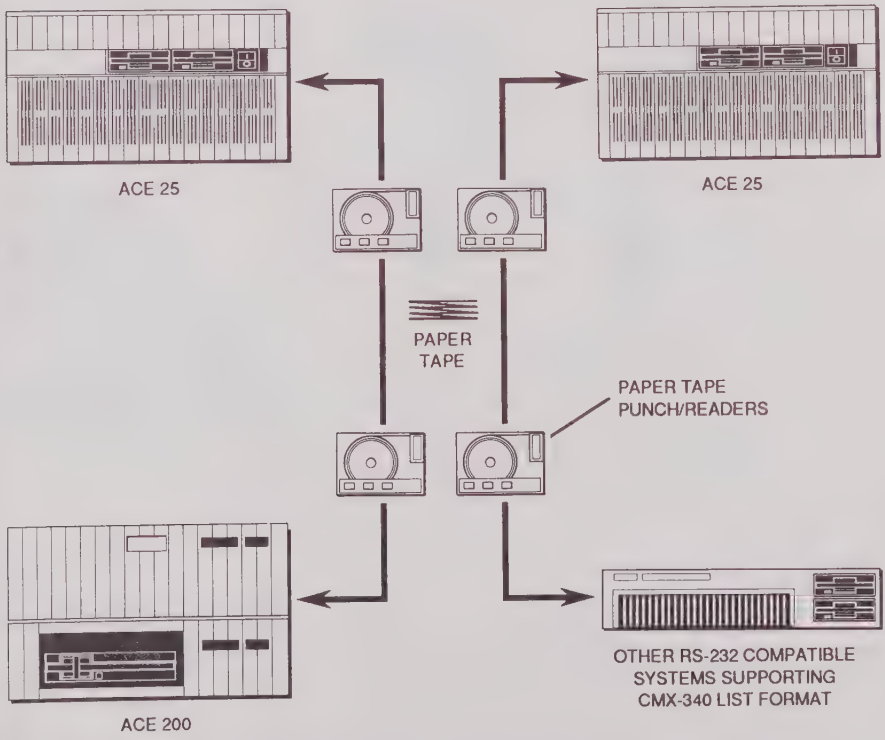



**Figure B-7. EDL Transfer Using Paper Tape—CMX List Format**

## B-9 EDL Transfer Using Standalone 8 in. Disk—CMX List Format

This EDL transfer method uses RS-232 serial communications in conjunction with a standalone 8 in. disk drive unit to read and write CMX-340 EDLs. Use this method between ACE 25 and ACE Standard, Micro, and 200, and between ACE 25 and other editors with 8 in. disk drives supporting CMX-340 list format (see Figure B-8). Unique SMPTE EDL data not supported by CMX-340 format is translated into comments.

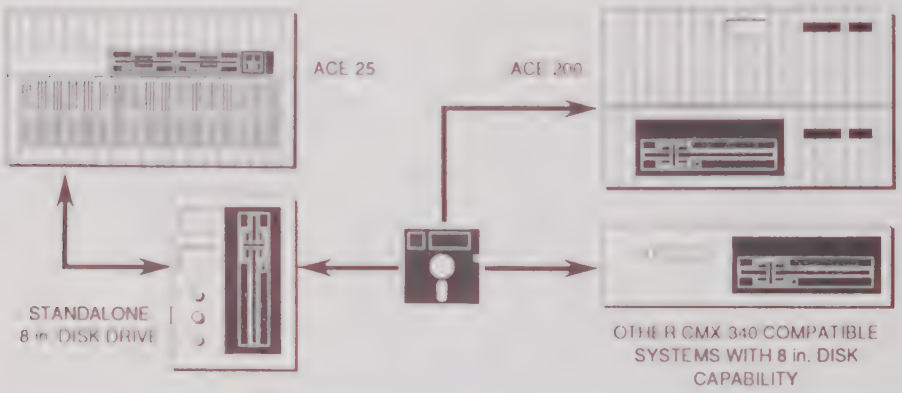



Figure B-8. EDL Transfer Using Standalone 8 in. Disk—CMX List Format

## B-10 EDL Transfer Using Intermediate PC—CMX List Format

This EDL transfer method uses ACE 25 3.5 in. disks and RS-232 communications with a standalone PC in between. The ACE 25 disk is written in CMX-340 format and the PC is connected to any editor with RS-232 I/O capability. The PC has software, such as Turbo Trace and EDL.Com, capable of converting MS-DOS to RS-232. Use this method between ACE 25 and ACE Standard, Micro, ACE 200, and other CMX-340 list compatible editors (see Figure B-9).

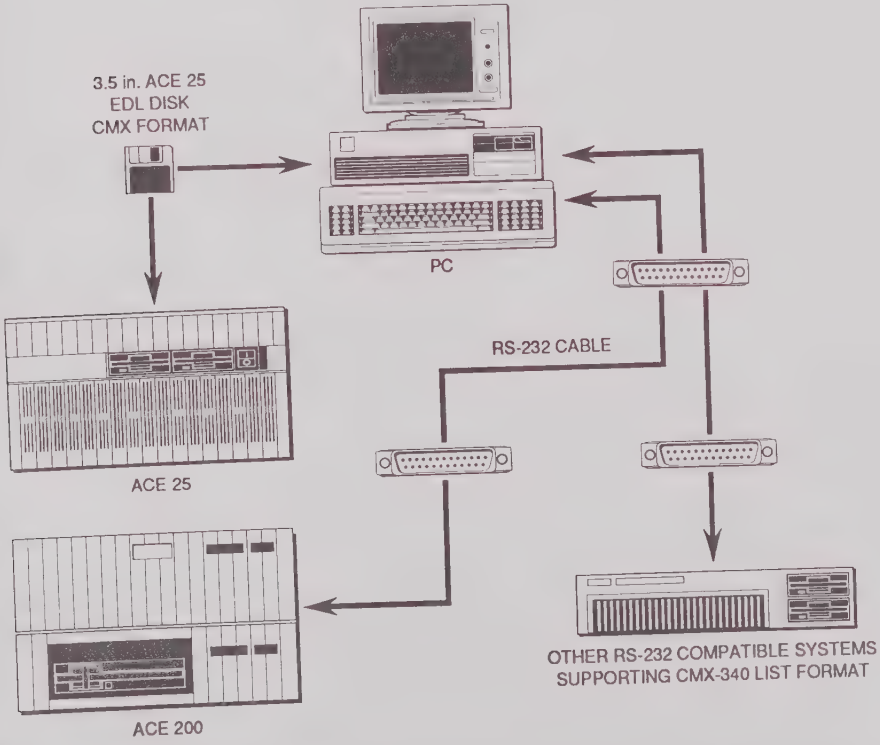



**Figure B-9. EDL Transfer Using Intermediate PC—CMX List Format**

## B-11 EDL Transfer Using List Management PC—CMX List Format

This EDL transfer method uses ACE 25 3.5 in. disks and RS-232 communications with a standalone PC in between. The ACE 25 disk is written in CMX-340 format. The PC has list management software, such as Turbo Trace, and is connected to a standalone 8 in. disk drive. The 8 in. disk drive generates an 8 in. CMX-340 compatible disk. Use this method between ACE 25 and ACE Standard, Micro, 200, and other CMX-340 compatible systems (see Figure B-10).

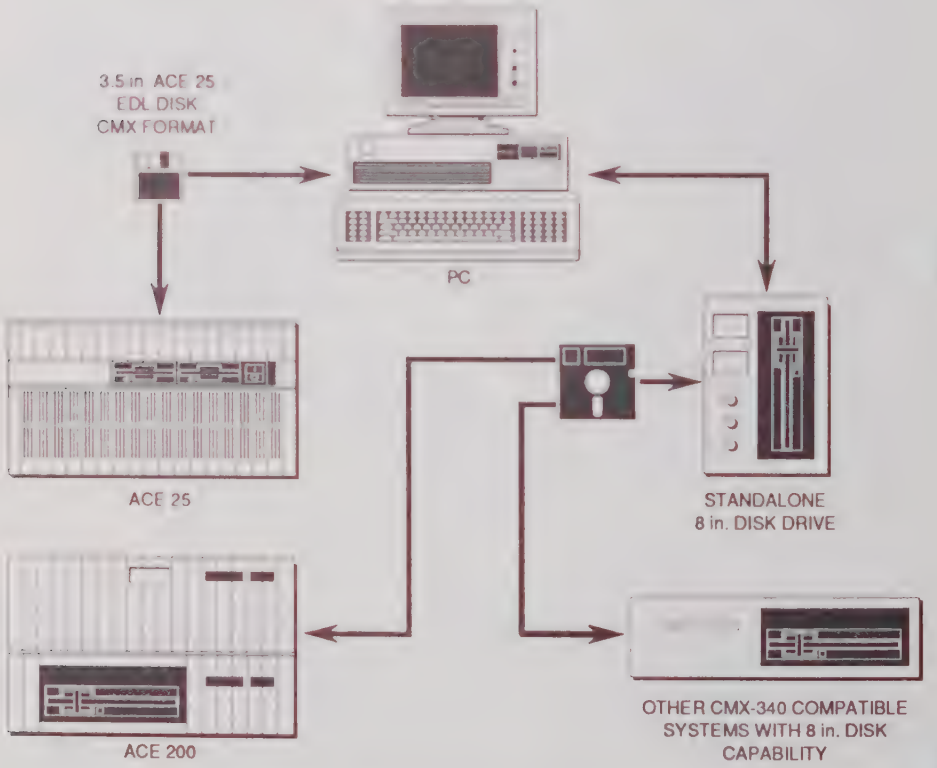



**Figure B-10. EDL Transfer Using List Management PC—CMX List Format**

# APPENDIX C

# ERROR MESSAGES

## C-1 GENERAL INFORMATION

This Appendix lists all error codes programmed into ACE 25, along with options for possible operator action should an error occur.

ACE 25 has a software-based error detection and reporting system. Each error condition is identified by a unique error code and message. An error log records the error and displays the last 20 keystrokes preceding the error. This error log can be viewed later to analyze possible error causes.

Should an error occur, the error message is displayed to the operator as an error code and error parameters at the top of the data monitor screen, and the error log is updated with the latest error information.

## C-2 ERROR MESSAGES

Tables C-1 through C-23 list all error messages in numerical order and according to type. Where applicable, a possible solution to the error is given.

- Table C-1: General Error Messages (Codes 1 - 99)
- Table C-2: Errors in Error Handling
- Table C-3: File I/O or Operating System Errors
- Table C-4: Interrupt-related Errors
- Table C-5: Display-related Errors
- Table C-6: Timecode Errors
- Table C-7: Command Packet Errors
- Table C-8: Character Buffer Errors
- Table C-9: Lexical Analysis Errors
- Table C-10: Keypad Input Errors
- Table C-11: File Input Errors
- Table C-12: Keyboard or Knob Errors
- Table C-13: ILC Errors
- Table C-14: Memory Allocator Errors
- Table C-15: Transport Errors
- Table C-16: Switcher Errors
- Table C-17: Trigger Errors
- Table C-18: Auto Assembly Errors
- Table C-19: Task List Errors
- Table C-20: EDL Errors
- Table C-21: Fifo Errors
- Table C-22: Manual Mode Errors
- Table C-23: EOTF Errors

**Note**

**In Tables C-1 through C-23:**

- **RTA in "Operator Action" column means "Report to Ampex"; acronym indicates that operator has no immediate option for error solution, but should report error to Ampex.**
- **The "%" signs and letters that follow them represent characters or digits in actual messages displayed on CRT. Parameters of letters following "%" signs are defined below:**

  **d = Decimal number**

  **u = Decimal number (unsigned)**

  **X = Hexadecimal number**

  **s = String**

  **i = ID (reel number)**

  **e = Effect (edit line type, i.e., CUT, DISSOLVE, etc.)**

  **k = Key (hard key or soft key, i.e., JOG, NEXT, etc.)**

  **P = Pointer (programmers' stuff)**

  **c = Character**

  **t = Timecode**

  **m = Channels (V12)**

  **To determine exact value of a "%" sign and its following letter in an error message, replace sign and letter with appropriate parameters listed above.**

Although the bulk of ACE 25's error codes are for the use of ACE 25 programmers only, many error codes are the result of keystrokes or sequences of keystrokes that have easy operator checks or solutions. All error codes, however, should be reported on a bug report form in the normal manner.

Table C-1. General Error Messages [Codes 1 - 99]

| No. | Error Message | Operator Action |
|---|---|---|
| 1 | Internal error: botched boolean test | RTA |
| 2 | Bad code cksum start = %P, length = %X | RTA |
| 4 | Bad index: %s = %X | RTA |
| 6 | Bad ixidReply: %X | RTA |
| 8 | Bad pointer: %P | RTA |
| 10 | Bad process: %X | RTA |
| 12 | Bad state: %X | RTA |
| 14 | Bad service: %X | RTA |
| 16 | Bad type: %s = %X | RTA |
| 18 | Call of non function: %P | RTA |
| 20 | Developer dump: %X %X %X %X | RTA |
| 22 | Divide trap: %P | RTA |
| 24 | Erc not sorted: %d | RTA |
| 26 | FormatBlock unknown format | RTA |
| 28 | Infinite loop type %d detected at %P | RTA |
| 30 | Memory clobber type %d | RTA |
| 32 | Feature not implemented | Cancel operation. |
| 34 | FormatString output overflow | RTA |
| 36 | Attempted deadlock in process %X | RTA |

(Continued next page)

Table C-1. General Error Messages [Codes 1 - 99] (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 38 | pSOS error: %d %X | RTA |
| 40 | pSOS error: RETI failed | RTA |
| 42 | Reply mismatch: services %X %X | RTA |
| 44 | %s | Press HOME. |
| 46 | Stack overflow in process %d | RTA |
| 48 | Stack overflow danger in process %d, %d words remaining | RTA |
| 50 | FormatString tyArg bad | RTA |
| 52 | FormatString width overflow | RTA |

Table C-2. Errors in Error Handling

| No. | Error Message | Operator Action |
|---|---|---|
| 100 | Buffer size %d too small | RTA |

Table C-3. File I/O or Operating System Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 200 | Invalid date: range is 1/1/1980 to 12/31/2099 | Reenter valid date. |
| 201 | Invalid date: range is 1/1/1980 to 12/31/2099 | Reenter valid date. |
| 202 | Cannot reset floppy disk system | Check disk power connections or reboot. If error persists, RTA. |
| 204 | Disks are not compatible | Use MS-DOS 720K, DSDD disk. |
| 205 | Disk in drive %c is full | Format new disk and rewrite file or try different disk. |
| 206 | Internal %s error on drive %c: [%X] | RTA |
| 212 | No disk in drive %c | Insert file disk in drive. |
| 214 | Bad data written to track %d | Format new disk and rewrite file. If error persists, RTA. |
| 216 | Read error on disk in drive %c | Change drives and retry operation. |
| 218 | Disk in drive %c is not formatted | Format the disk. |

(Continued next page)

Table C-3. File I/O or Operating System Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 220 | No disk in drive %c or disk is write-protected | Insert disk in drive or remove write protect. Retry operation. |
| 221 | Invalid argument to DOS call | RTA |
| 222 | Can't use file %s, too many files open | RTA |
| 224 | Can't access file %s | Use proper name or retry with new disk. |
| 226 | File %s exists already | Press confirm or abort. Try different name or remove old file. |
| 228 | Invalid handle for file %s | RTA |
| 229 | Illegal filename given | Enter valid filename, 8 characters only. |
| 230 | File %s not found | Enter valid filename or abort. |
| 232 | No space left for file %s | Format new disk and rewrite file. |
| 234 | Not a valid character | Use valid character. Try different filename. |
| 236 | No such disk drive as %c | RTA |

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Table C-3. File I/O or Operating System Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 238 | Printer bios timed out. Status %X | Check power and connections to printer. |
| 240 | Printer busy. Status %X | Try operation again when printing is complete. Check printer connections. |
| 242 | Printer halted | User report only. |
| 244 | Printer not assigned | Assign printer to I/O port. |
| 246 | Printer not connected to ACE 25. Status %X | Connect printer to I/O port. Check power and connections to printer. |
| 248 | Printer out of paper. Status %X | Reload paper in printer. |
| 250 | Printer is off line. Status %X | Put printer on line. |
| 252 | Printer is turned off. Status %X | Turn on printer. |
| 254 | Printer status %X not recognized | Check power and connections. If error persists, RTA. |
| 256 | Last item on file %s is incomplete | User report only. Check EDL file. |

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Table C-3. File I/O or Operating System Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 258 | Can't send XON to transmitting side | Retry operation. |
| 260 | Bad baud rate %d for serial port %d | Check serial port configuration. If error persists, RTA. |
| 262 | Bad parity for serial port %d | Check serial port configuration. If error persists, RTA. |
| 264 | Bad stop bits %d for serial port %d | Check serial port configuration. If error persists, RTA. |
| 266 | Bad word length %d for serial port %d | Check serial port configuration. If error persists, RTA. |
| 268 | Break detected during %s on serial port %d | User report only. Check other transmitting or receiving device. |
| 270 | Framing error during %s on serial port %d | Check connection to serial port. Check other transmitting or receiving device. |
| 272 | Serial file transfer halted | User report only. |
| 274 | Data over run during %s on serial port %d | Check connection to serial port. Check other transmitting or receiving device. |

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Table C-3. File I/O or Operating System Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 276 | Parity error during %s on serial port %d | Check connection to serial port. Check other transmitting or receiving device. |
| 280 | Timed out during %s on serial port %d | Check connection to serial port. Check other transmitting or receiving device. |
| 282 | Unknown file transfer port | Check serial port configuration. If error persists, RTA. |
| 284 | BIOS error code not recognized: %d on | RTA function %d |
| 286 | Disk error code not recognized: %X | RTA |
| 288 | MS_DOS error code not recognized: %d | RTA |
| 290 | Transfer completed | User report only. |
| 298 | No XON received for transmission | Check connection to serial port. Check other transmitting or receiving device. |

Table C-4. Interrupt-related Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 300 | Found %s device on %s device ILC channel %d | RTA |
| 302 | The MIF/SWIF file size is too big | RTA |
| 304 | MIF boot finished | User report only. |
| 306 | This device doesn't need to boot | RTA |
| 308 | MIF boot started, file %s | User report only. |
| 310 | Invalid burst in system video reference | Check system video reference. |
| 312 | Locking to new color field sequence | User report only |
| 314 | Reference video missing or invalid [%d] | Check reference video to system. |
| 316 | Cannot exchange msgs. Not in ILC_CONFIG | RTA |
| 318 | Cannot find device on ILC Channel %d | Check power and device connections. |
| 324 | Cannot find ILC Board | Check power and seating of boards. If error persists, RTA. |
| 326 | ILC Board is sick | RTA |
| 328 | ILC %d buffer overflow | RTA |
| 330 | ILC %d is not ready [state %X] | If error persists, RTA. |

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Table C-4. Interrupt-related Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 332 | Illegal message received on channel %d | Check connections to external devices. |
| 334 | Input channel %d not ready | Check connections. If error persists, RTA. |
| 336 | Attempt to send null msg on channel %d | Check connections. If error persists, RTA. |
| 338 | Output channel %d not ready | Check connections. If error persists, RTA. |
| 340 | II.C Channel %d needs to be re-configured | Re-boot or cycle power on indicated device, reconfigure from ACE 25. |
| 342 | Ring spline error on channel %d | Check connections. If error persists, RTA. |
| 344 | Invalid Communication Type | RTA |
| 346 | Interrupt process out of error blocks | User report only. Indicates too many errors received. |
| 348 | Invalid Quatro keyboard message | If error persists, RTA. |
| 350 | Bad raw key code %X %X | Indicates hardware problem, RTA. |

Table C-5. Display-related Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 400 | Window cannot hide: %X | RTA |
| 402 | Window cannot move: %X | RTA |
| 404 | Window cannot select: %X | RTA |
| 406 | Window cannot show: %X | RTA |
| 408 | Window not currently active: %X | RTA |

Table C-6. Timecode Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 500 | Bad TV Standard | RTA |
| 502 | Invalid timecode [%t] received from transport %c | User report only. Check timecode on transport or restripe. |
| 504 | TcCmp Failed: %X | RTA |
| 506 | Drop Frame Error [%t] | RTA |
| 508 | Drop Frame Not Allowed In PAL | Check timecode on transport. Check if tape is NTSC. |
| 510 | Drop Frame Not Allowed In PAL [%t] | Check timecode on transport. Check if tape is NTSC. |

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Table C-6. Timecode Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 512 | Timecode discontinuity on transport %c | Change to TT or restripe with continuous code. |
| 514 | Division of zero by zero | RTA |
| 516 | Division by zero | RTA |
| 518 | First Timecode Is Undefined [%t] | Enter valid in-point. |
| 520 | Invalid BCD Digit [%t] | RTA |
| 522 | Invalid TC Number [%t] | Enter valid timecode number. |
| 524 | DropFrame and Non-DropFrame Mixed | Roll transport until correct code is read. Use SHIFT + : to change DF to NDF. |
| 526 | Second Timecode Is Undefined [%t] | Enter valid out-point. |
| 528 | Edit speed overflow | Reenter slow motion speed within range. |
| 530 | Edit speed underflow | Reenter slow motion speed within range. |
| 534 | Too many undefined values [%X] | Enter more values. |
| 536 | Timecode Is Undefined [%t] | Enter valid number. |

Table C-7. Command Packet Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 600 | Cmd buffer overflow, keystroke lost | User report only. |
| 602 | Cmd %k duplicate func %P %P | RTA |
| 604 | Cmd %k unknown func %P | RTA |
| 606 | Cmd %k is not applicable in this situation | User report only. |
| 608 | Cmd %k not implemented | User report only. |
| 610 | Command %k inappropriate at this point | User report only. |
| 612 | Menu %d illegal | RTA |
| 614 | Menu stack array overflow—Index %d | RTA |
| 616 | Menu stack array underflow—Index %d | RTA |
| 618 | No function for this command %k | RTA |

Table C-8. Character Buffer Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 700 | Character dropped: %x | User report only. |
| 702 | Cursor at start of %s buffer | User report only. |
| 704 | Cursor at end of %s buffer | User report only. |
| 706 | %s buffer closed | User report only. |
| 708 | %s buffer line done | User report only. |
| 710 | %s buffer overflow | User report only. |
| 712 | %s buffer init. with %d bytes, max is %d | RTA |
| 714 | %s buffer underflow | User report only. |

Table C-9. Lexical Analysis Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 800 | Invalid timecode in input buffer | User report only.<br>Re-check operation. |
| 802 | Lexical analysis reached end of buffer | User report only.<br>Re-check operation. |
| 804 | Please enter value into input buffer | User report only.<br>Re-check operation. |
| 806 | Lexical analysis buffer overflow | User report only.<br>Re-check operation. |
| 808 | Unknown token in input buffer | User report only.<br>Re-check operation. |

Table C-10. Keypad Input Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 900 | ASCII keyboard not active here | User report only. Press HOME. Only active in ECL. |
| 902 | Invalid timecode in keypad buffer | Enter valid number. |
| 904 | Cannot trim value | User report only. |
| 906 | Please enter number into keypad buffer | Enter valid number. |
| 908 | Please enter timecode into keypad buffer | Enter valid number. |
| 910 | Negative numbers not allowed here | Enter positive value. |
| 912 | No value to load into keypad buffer | User report only. Check operation. |
| 914 | Number out of valid range (0 - 1000) | Reenter valid number. |

**Table C-11. File Input Errors**

| No. | Error Message | Operator Action |
|---|---|---|
| 1000 | Bad config option: %s | User report. Check file on disk. |
| 1002 | Audio channel %d not supported | User report. Check file on disk. |
| 1004 | Unrecognized Edit line made into Comment | User report. Check file on disk. |
| 1006 | Incomplete EDL file | User report. Check file on disk. |
| 1012 | Partial edit line during EDL file input | User report. Check file on disk. |
| 1014 | I/O in progress | User report. Try again once I/O is finished |

Table C-12. Keyboard or Knob Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 1100 | Comments Keyboard failed diagnostic test | User report. Check comments keyboard. |
| 1102 | Invalid cmd sent to ACE 25 Keyboard | Check power and connection on ACE 25 keyboard. If error persists, RTA. |
| 1104 | RAM Test Failed on ACE 25 Keyboard | Check power and connection on ACE 25 keyboard. If error persists, RTA. |
| 1106 | Invalid ROM on ACE 25 Keyboard | Check power and connection on ACE 25 keyboard. If error persists, RTA. |
| 1108 | Key stuck (or held down) on ACE 25 keyboard | User report. Check keyboard. |
| 1110 | Timeout on ACE 25 keyboard: check keyboard power and cables | User report. |
| 1112 | Knob control of %s not implemented | RTA |
| 1114 | Can't control EQ for %s | EQ only active for source VTRs and Aux. |
| 1116 | Can't control INPUT for SRC R | Input only active for source VTRs and Aux. |

Table C-13. ILC Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 1200 | Communications processor busy | Check cables to external devices. Check seating of ILC. If error persists, RTA. |
| 1201 | Bad channel number: %d | Check cables to external devices. Check seating of ILC. If error persists, RTA. |
| 1202 | Checksum error on channel %d | Check cables to external devices. Check seating of ILC. If error persists, RTA. |
| 1203 | Bad function call: %d | Check cables to external devices. Check seating of ILC. If error persists, RTA. |
| 1204 | Invalid message on channel %d | Check cables to external devices. Check seating of ILC. If error persists, RTA. |
| 1205 | Invalid response on channel %d | Check cables to external devices. Check seating of ILC. If error persists, RTA. |
| 1206 | No response on channel %d | Check cables to external devices. Check seating of ILC. If error persists, RTA. |

(Continued next page)

Table C-13. ILC Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 1207 | Channel %d not configured | Check cables to external devices. Check seating of ILC. If error persists, RTA. |
| 1208 | Communications timeout on channel %d | Verify that power is on to VTR. De-assign VTR from system. |
| 1209 | UART error on channel %d [%X] | Check cables to external devices. Check seating of ILC. If error persists, RTA. |

Table C-14. Memory Allocator Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 1300 | Memory clobber type %d at %P | RTA |
| 1302 | Bad memory region header at %P | RTA |
| 1304 | Bad memory region: %X | RTA |
| 1306 | Out of memory (memory fragmented) | RTA |
| 1308 | Out of memory (memory full) | Store EDL on disk and clear memory. If error persists, RTA. |
| 1310 | MemInitRegion: %d %P %P | RTA |
| 1312 | Memory test failed at %P | RTA |

**Table C-15. Transport Errors**

| No. | Error Message | Operator Action |
|---|---|---|
| 1402 | Cannot reassign source: %i | User report. |
| 1404 | No color framing with component reference | User report. |
| 1406 | Illegal slow motion speed: %d | Enter valid VTR slow motion speed. |
| 1408 | Invalid source selected: %d | Select valid source. |
| 1410 | No edit to replay | Feature requires previously performed edit in EDL. |
| 1412 | Transport %c stopped at end of tape | User report. |
| 1414 | Can't search to undefined timecode | Enter valid number. |
| 1420 | Unknown Src Ctrl Cmd %d | RTA |
| 1422 | Source %i needs longer preroll time | Enter longer preroll. |
| 1424 | Source %i is unmounted | Mount requested reel assign reel number. |
| 1426 | Timecode Arithmetic Error %d in %s [%t] | RTA |
| 1428 | Unknown timecode source on Transport %d | RTA |
| 1430 | Transport can't do switcher action %s | RTA |

(Continued next page)

Table C-15. Transport Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 1432 | Transport can't do %s during %s | Transport is in use. Wait until current event stops editing. |
| 1434 | Cannot find %t on Transport %c | Enter valid number for search. |
| 1436 | Timer bias problem on Transport %c | RTA |
| 1438 | No record machine found in system | Assign record VTR. |
| 1440 | Source %c has no transport assigned | Configure source VTR. |
| 1442 | Transport %c not cued | Allstop, retry edit. |
| 1444 | Transport %c not ready | Check local/remote. |
| 1446 | Transport %c not synchronized | Allstop and retry. Also try longer preroll or new marks. |
| 1448 | Unsupported operation requested for MIF based transport | RTA |
| 1450 | Transport %c never synchronized | Allstop and retry. Also try longer preroll or new marks. |

Table C-16. Switcher Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 1500 | Switcher can't do %s during %s | Wait until current event is through. |
| 1502 | Switcher can't do transport action %s | RTA |
| 1504 | Can't control chroma key for switcher %s | Select new effect or abort current action. |
| 1506 | Can't control external chroma key for switcher %s | Select new switcher effect or select internal key source. |
| 1508 | Can't control %s for effect %e | Select new effect or abort current action. |
| 1510 | Can't control fader for effect %e | Select new effect or abort current action. |
| 1512 | Can't control key for effect %e | Select new effect. |
| 1513 | Can't do manual fader control for %s | Select new effect or abort current action. |
| 1514 | Can't handle request %s on %s | Select new effect or abort current action. |
| 1516 | Can't control width for effect %e | Select new effect or abort current action. |
| 1518 | Can't find effect data for this effect | RTA |
| 1520 | Can't control effect WIPE, must use external switcher, e.g., VISTA | Select new effect or abort current action. |

(Continued next page)

Table C-16. Switcher Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 1522 | %s switcher can't control audio 1 & 2 separately | User report. |
| 1524 | Dumpster Memory Failure: Addr %X, Wrote %X, Read %X | RTA |
| 1526 | Internal switcher not capable of more than 4db gain | User report. |
| 1528 | Invalid channel selection %s %s | Select valid channel. |
| 1530 | Invalid metering point: (%X) | Select valid metering point. |
| 1532 | Invalid metering type: (%X) | RTA |
| 1534 | Timeout waiting for line count %d | RTA |
| 1536 | Switcher needs longer preroll for effect %e | Enter longer preroll. |
| 1538 | System has no switchers configured | Assign switcher to the system. |
| 1540 | %s switcher don't have enough time to receive message | User report. Effect too complex. |
| 1542 | Internal switcher not installed | Assign internal or external switcher. |
| 1544 | %s switcher not ready | Check connection to switcher. |
| 1546 | This switcher supports no AUDIO | User report. |

(Continued next page)

Table C-16. Switcher Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 1548 | This switcher supports no effects | User report. |
| 1552 | No switcher for channels %m | User report. |
| 1554 | %s switcher supports no VIDEO | User report. |
| 1556 | Pline bad in switcher request | RTA |
| 1558 | Invalid switcher request %d | RTA |
| 1560 | Switcher request %s not supported | RTA |
| 1562 | Switcher table full | RTA |
| 1564 | Switcher type %d not supported | RTA |

Table C-17. Trigger Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 1600 | GPI channel %d doesn't exist | Enter valid GPI channel 1 - 4. |
| 1602 | No trigger on current line | Arrow up or down to trigger line. |

Table C-18. Auto Assembly Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 1700 | Bad auto assy request: %s | RTA |
| 1702 | Can't be in state %s while in function %s | RTA |
| 1704 | Can't %s while in state %s | RTA |
| 1706 | No more retries left | Allstop and retry. |
| 1708 | ECL must be selected for a special preview | Press HOME. |
| 1710 | No edit being previewed/edited | Enter valid edit inpoints, outpoints. |
| 1712 | Can't preview/edit while editing | Allstop or wait for current action to complete. |
| 1714 | No active cue task list | RTA |
| 1716 | No active roll task list | RTA |
| 1718 | Src %i doesn't support channels %m | User report. |
| 1720 | No cassette eject cmd for transport | Requested VTR does not use cassettes. |
| 1722 | Task Buffer Overflow | RTA |
| 1724 | Undefined Timeline In | RTA |
| 1726 | Internal error. Unknown Device Type | RTA |
| 1728 | Internal error. Unknown Source Request %d | RTA |

(Continued next page)

Table C-18. Auto Assembly Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 1730 | Internal error. Unknown transport communications %d | RTA |
| 1732 | Cannot assemble edit unless all channels (V12) are selected | Change mode to V12. |
| 1734 | Assemble edits must have matching in and out points | Delete split line. Change mode to V12. |
| 1736 | Internal error. Stop command not in fifo. | RTA |

Table C-19. Task List Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 1800 | Bad pDevice: %lP | RTA |
| 1802 | Invalid device action %d | RTA |
| 1804 | Invalid switcher request state %d | RTA |
| 1806 | Invalid transport request state %d | RTA |
| 1808 | Keyboard not ready | Check keyboard power and cables. |
| 1810 | LnFieldNew %X overflows %X | RTA |
| 1812 | LnField0 %X wraps beyond %X piece | RTA |
| 1814 | LnField1 %X and LnFieldNew %X not in same piece | RTA |
| 1816 | No devices available to do request | Assign VTR or switcher to channel. |
| 1824 | Task pointer is null | RTA |
| 1826 | Task pointer %P not found | RTA |
| 1830 | Task list bad | RTA |
| 1844 | Task list missing | RTA |
| 1846 | Task list pointer is null | RTA |
| 1848 | Task list performed twice [%P] | RTA |
| 1850 | Unknown device type %d | RTA |

Table C-20. EDL Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 1900 | Can't turn off all channels | Enable V, A1, or A2. |
| 1902 | Sorry, cannot change src speed with zero duration times | Enter duration for the source VTR. |
| 1904 | Sorry, source times stay at zero duration on zero speed transport | Clear slow motion speed. |
| 1906 | Can't clean against an undefined entry on edit %d%c | User report. |
| 1908 | Current line is not a key effect line | User report. Arrow up or down to key line. |
| 1910 | Can't do an ALL %k | Abort action and enter valid ALL mode. |
| 1912 | Can't %s on Record machine or Static source | User report. |
| 1914 | Can't split edit line | User report. |
| 1916 | Can't change/clear static source entry time | Trim record times for line. |
| 1918 | Can't change to undefined trigger time | User report. |
| 1919 | Can't set duration unless entry or exit is entered by user | Enter valid entry or exit point. |
| 1920 | Source has mismatched fields | Check VTR color framing. |
| 1922 | Source %i not color framed | Press CF Adjust. |

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Table C-20. EDL Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 1924 | Source %i not pal paired | Press CF Adjust. |
| 1926 | Change cancelled | User report. |
| 1928 | Line is not a chroma key | Scroll to valid line. |
| 1930 | Edit change not supported on %e line | User report. |
| 1932 | Edit change request not valid %X | RTA |
| 1934 | Edit number must be between 1 and 9999 | Enter valid edit number. |
| 1936 | No mode given | Assign V, A1, or A2. |
| 1938 | No edit source specified | Select source and enter times. |
| 1940 | No record entry time given | Enter valid record entry time. |
| 1942 | No record times given | Enter valid record times. |
| 1944 | No source entry time given for %i | Enter valid source entry time. |
| 1946 | No source times given for %i | Enter valid source times. |
| 1948 | No trigger time given | Enter valid trigger times. |
| 1950 | Record Entry greater than Exit | Undo or clear record entry or exit point. |

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Table C-20. EDL Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 1952 | No reel number for this source | Enter valid reel number. |
| 1954 | Speed must be between -100 and 300 | Enter valid VTR slow motion speed. |
| 1956 | Undefined source speed | Enter a valid VTR slow motion speed. |
| 1958 | CMX I/O—Edit numbers out of range (001 - 999). Please renumber EDL. | Enter edit number within range. |
| 1960 | Reel %i out of range. Please renumber. Valid range is 1 - 253. | User report for CMX I/O. |
| 1962 | Too many different reel numbers in CMX list | User report for CMX I/O. |
| 1964 | CMX I/O: too many sources. Please write list in pieces. | User report for CMX I/O. |
| 1966 | Key background has delay | User report. |
| 1970 | Line not added (edit is too large) | Delete ECL edit line. |
| 1974 | Edit needs to be divided | Divide edit into shorter segments. |
| 1976 | Edit has no edit line | User report. |
| 1984 | Edit is too large [%P %d] | Shorten the edit. |
| 1986 | Effect cannot change from %e to %e | User report. |
| 1988 | Effect duration too high | Enter valid effect effect duration. |

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Table C-20. EDL Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 1990 | Effect Start outside of legal range | Enter valid range. |
| 1992 | User has not marked a first edit | Select edit, press Mark First. |
| 1994 | User has not marked a last edit | Select an edit, press Mark Last. |
| 1996 | No FROM line found | RTA |
| 1998 | Found no match | User report. Reenter number for EDL search or select another machine. |
| 2000 | No TO line found | RTA |
| 2002 | Rec IN on FROM line doesn't match Rec OUT on TO line | User report. |
| 2004 | Gpi %i is not known by system | Check GPI configuration. |
| 2006 | Cannot delete this %e line | Arrow up or down to "TO" line. |
| 2008 | Bad line pointer %P | RTA |
| 2010 | Bad line type %P %X | RTA |
| 2012 | List is empty | User report. |
| 2014 | Reached end of list | User report. |
| 2016 | Reached start of list | User report. |

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Table C-20. EDL Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 2018 | Cannot enter negative effect duration | Enter valid effect duration. |
| 2020 | Cannot make record duration less than zero | Undo, or clear record exit point. |
| 2022 | Nothing to Undo | User report. |
| 2024 | Edit %u has no CUT line | User report. |
| 2026 | Key background has no delay | User report. |
| 2028 | GPI is not here | User report. |
| 2030 | No matching src %i in edit. Cannot change to Src Abs Trigger | User report. |
| 2032 | No timecode in current edit line | Scroll to valid EDL line with timecode. |
| 2034 | Open ended edit | User report. |
| 2036 | Undefined duration | User report. |
| 2038 | Query not found [Type: %X, Source: %i, Channels: %X] | User report. |
| 2040 | Query not supported on %e line | Check edit line type. |
| 2042 | Undefined record entry | Enter valid record entry. |
| 2044 | Undefined record exit | Enter valid record exit. |
| 2046 | Record times have gaps | User report. |

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Table C-20. EDL Errors (Continued)

| No. | Error Message | Operator Action |
|---|---|---|
| 2048 | Record times overlap | User report. |
| 2050 | Reel %s not found | Enter new number for EDL search. |
| 2052 | Undefined reel | Enter valid reel number. |
| 2054 | Cannot sort (internal failure) | RTA |
| 2056 | Source %i not found | User report. |
| 2058 | Source speed not constant | User report. Check transport. |
| 2060 | Source times not synchronous | User report. Check edit entry, exit times. |
| 2062 | Bad data in viewport | RTA |
| 2064 | Source %i is static | User report. |
| 2066 | Tag not supported on %s line | Arrow up or down to valid line. |
| 2068 | SYNC TAG failed | Undo or retry. |
| 2070 | REEL TAG failed to find previous use of current source %i in EDL | Undo or change source reel number. |
| 2072 | Trigger src %i does not match current source | User report. |
| 2074 | gfProtectUndo TRUE | RTA |
| 2076 | Invalid pattern value | Enter valid wipe pattern number. |

Table C-21. Fifo Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 2100 | Fifo empty | RTA |
| 2102 | Fifo overflow | RTA |

Table C-22. Manual Mode Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 2200 | Invalid event during audio manual control | Enter valid event. |
| 2202 | Invalid manual audio control state | RTA |
| 2204 | Invalid event during channel select manual control | RTA |
| 2206 | Invalid manual channel select control state | RTA |
| 2208 | Invalid event during fader manual control | Enter valid event. |
| 2210 | Invalid manual fader control state | RTA |
| 2212 | Invalid event during gpi manual control | Enter valid event. |
| 2214 | Invalid manual gpi control state | RTA |
| 2216 | No active manual control | User report. |
| 2218 | Invalid event during transport manual control | Enter valid event. |
| 2220 | Invalid manual transport control state | RTA |

Table C-23. EOTF Errors

| No. | Error Message | Operator Action |
|---|---|---|
| 2300 | ECL must be selected for Edit On The Fly | Press HOME. |
| 2302 | Function disabled during Edit On The Fly | User report. Abort current action. |
| 2304 | Edit On The Fly invalid line type %e | RTA |
| 2306 | Edit On The Fly invalid record in, should be %t | RTA |
| 2308 | Edit On The Fly invalid record out, should be %t | RTA |
| 2310 | Source not used in Edit On The Fly | User report. |